

ATHLETIC JOURNAL

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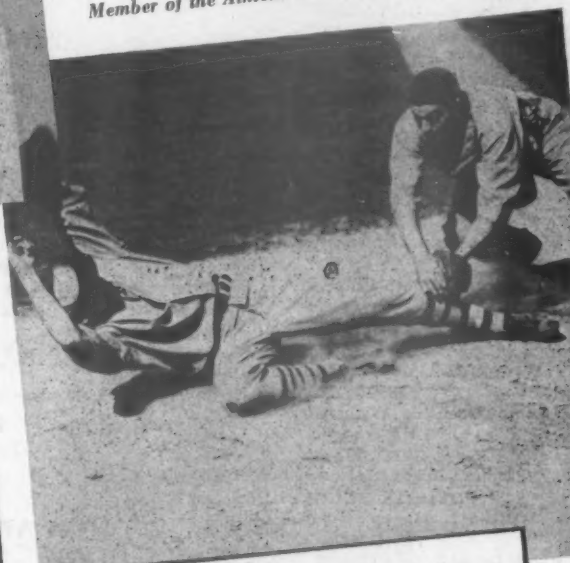
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The ATHLETIC JOURNAL

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FEBRUARY, 1952

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FRONT COVER ILLUSTRATION

Jim Ford passes the baton to Jim Lavery using the non-visual pass. For a thorough discussion of relay racing see pages 6-9. Photo—Des Moines Register and Tribune.



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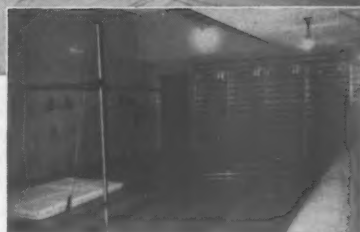
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from here and there



THIS past fall, out of 319 league football games played in Kansas, only 14 or 4.3 per cent ended in ties. A year ago, out of 507-league games, only 21 or 4.1 per cent ended in ties. Thus, over a two-year span, only 4.2 per cent of the supposedly most evenly matched games, which are league games, ended in ties. If the overall season records which include pre-league games were included, the percentage would be much lower. . . Ed Manly, who is in his forty-first year as Illinois swimming coach, can point with pride to a record which we doubt has ever been equalled. The item to which we refer occurred in 1913 when every swimming record on the conference books was held by one of his swimmers. . . Seldom has sport witnessed such a complete mastery of one school over another as that which we find between Oklahoma and Oklahoma A. & M. in wrestling. The Sooner wrestling teams have come out on top only three times in 41 dual meets between the two schools. . . Phog Allen's Kansas basketballers have only been beaten twice in fifteen games against opponents from the Southwest Conference. . . Does the 205 points compiled when Stanford beat Iowa State 103 to 102 in an overtime game constitute a new record for the most points scored in an intercollegiate basketball game? . . . Have any idea of the percentage of blocked punts there are in a football season? Well, it isn't very high if the statistics of 124 games played by Southeastern Conference teams are any criteria. In that number of games, there were 853 punts made and only 15 were blocked for a figure of less than 2 per cent. . . Another possible record is the 26 out of 27 free throws registered by Arizona in their game against San Diego Naval Training Station.

THE 1917-18 Kentucky basketball season shows 9 won, 2 lost and 1 tie. The tie resulted from a scorer's error in the game with Wesleyan. The error was not noticed until after the teams had departed. . . Another long-

time coach is Harold Walker who has coached the Ashland, Mass., High School football team for twenty-one years. His record this past season was 7 won, against only 1 loss. . . "Red" Hastings of Austin, Minnesota, High School is about the winningest football coach in the country. After running up a 19 game winning streak, his team blew one and then started right off again on another streak. At the conclusion of this past season the streak stood at 31-1 loss in six years. . . Purdue and Wisconsin are tied for the lead in the number of Big Ten basketball championships won or tied for. Each has 12 to its credit. Indiana has never won a title outright, but has shared the title three times—each time with its deadly rival, Purdue. . . Dr. Harry Scott, who directed the very successful Coatesville Coaches Clinic, is now director of the Atlantic City Coaches Clinic which will be held February 25-28, and what a staff he has lined up. Charlie Caldwell, Bernie Crimmins, Ray Eliot, Sid Gillman, Andy Gustafson, Woody Hayes, Chuck Mather, Wayne Milner, Biggie Munn, Bud Wilkinson and Duke Wyre will be the headliners. Speaking of Chuck Mather, his Massillon, Ohio team a year ago scored 406 points to his opponents 31; and in eight years of coaching at Ohio high schools he has compiled the enviable record of only having lost 6 games out of 80 played.

DICK BUTLER, assistant to the Commissioner of Baseball since 1946, has joined MacGregor Goldsmith. From 1934 to 1942 he coached football and basketball at Paris, Kentucky, High School. . . Anyone attempting to legislate against tie games in football would have a hard time convincing the officials of Lehigh and Muhlenberg of the necessity for such action for these two schools have met 38 times and each time there has been a winner. . . Had trouble arranging a satisfactory home schedule? Think of Hardin-Simmons who played their first five football games

(Continued on page 54)



Above: Support of Brace is held firmly by strong durable lacings made of Leather and Tolex. Lower leg lacing cannot slip below gastroc nemius muscle.



Right: This Brace splints inside of knee. Supports outside of knee with an invisible splint.

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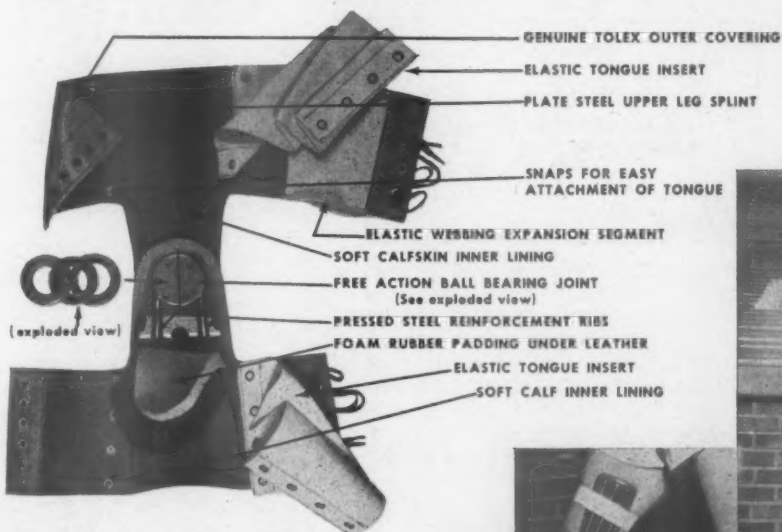
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Above: Absolutely no strain to ligaments or injury to cartilage after having resisted pressure of entire weight of 195 lb. man.

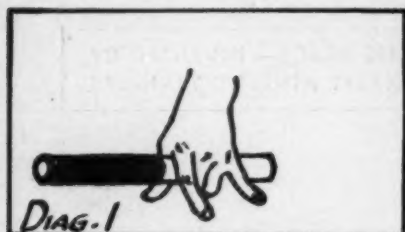


Left: Illustration shows ball bearing joint and steel splint (Covering or Lacings removed). No friction to knee articulation. Movable parts stay in same position as upper and lower leg when athlete is in action.



ONE year ago at the track coaches meeting in Dallas it was estimated that there were about twenty major relay meets run each year in the United States. In addition to these, each state high school association sponsors or sanctions many relay meets. The large number of college and high school relay meets, and the fact that relay events are being included in the championship track meets, indicates the tremendous growth and popularity of relay racing. This popularity is enjoyed both by the contestants and spectators.

The training involved in relay racing works in favorably with daily



track workout schedules, and many coaches feel that this practice greatly improves their workout schedules. This is a logical assumption, in that it not only stimulates workout competition, but also improves efficiency in baton passing. Of course, it is unnecessary to mention the additional number of boys who retain interest if there is an opportunity to run on a relay team.

There are many types of relays and many techniques and practices involved in relay racing which must be learned. A great deal of instruction on the part of the coach is required.

The Baton Carry

The baton should be carried with a firm grasp so that better than one-half of it extends forward. This allows the incoming runner to give the outgoing runner plenty of room to grasp it.

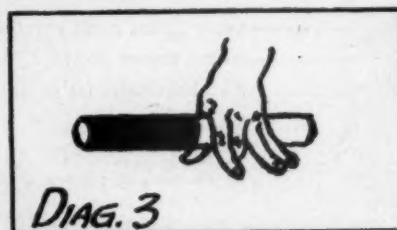
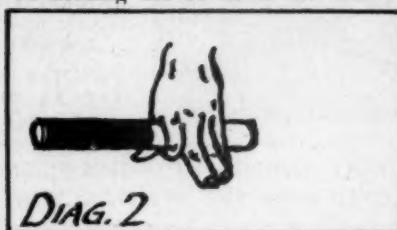
Relay Racing

By TOM DECKARD

Track Coach, Drake University, Des Moines, Iowa

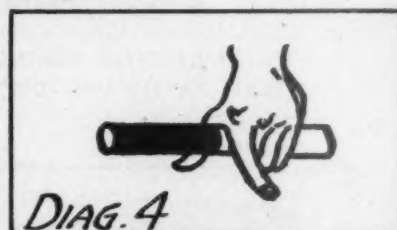
Methods of Holding the Baton for the Lead-Off Man

1. There are four accepted methods which the Number 1 runner may use in holding the baton at the start of



the race. We instruct our lead-off man to hold the baton in his left hand. As a rule, the lead-off man will hold the baton in his left hand; however, in a four-mile relay race he may start and carry it in either his right or left

hand. The second and third fingers are curled around the baton firmly, and the index, small finger, the thumb and the second joint of the second finger act as the base on the ground. We use this method since it permits a firm grip and keeps the body weight off the baton as the runner comes to the "get set" position (Diagram 1).



2. Diagram 2 shows the index finger curled around the baton, with the second, third, small finger, the thumb and second knuckle of the index finger used as a base.

3. The second finger is curled around the baton, with the thumb, index, third and small finger acting as the base on the ground (Diagram 3).

4. In Diagram 4, the second, third



(Series A) Above

Visual Exchange



(Series B) Right

Non-Visual Exchange





and small fingers are curled around the baton, using the thumb, the index finger and the second joint of the second finger as a base.

These methods are all good, and the runner should use the one which is the most comfortable for him.

The Visual Method of Exchange

The method of baton exchange depends primarily on the distance run by each member of the team. In the longer races where the incoming runner is likely to be tired, the visual method of exchange is used. This method places most of the responsibility on the outgoing runner and requires both runners to keep their eyes on each other until the exchange is made. We employ the visual method of exchange if the distance for each runner is 440 yards or more.

There are two ways in which the outgoing runner may receive the ba-

ton. He may extend his right hand backwards, palm up and thumb

TOMMY DECKARD was a member of the famous 1937 Indiana Four Mile Relay Team which set an American record of 17:16 at the Penn Relays. Tommy has been track coach at Drake for four years and in that time has brought Drake to a position of prominence in the world of track. Last year, at the Drake Relays, his host team won the 440, 880 and mile relays. The accompanying pictures show Jim Lavery who anchored all three relays and Jim Ford who was lead-off man on the three winning teams.

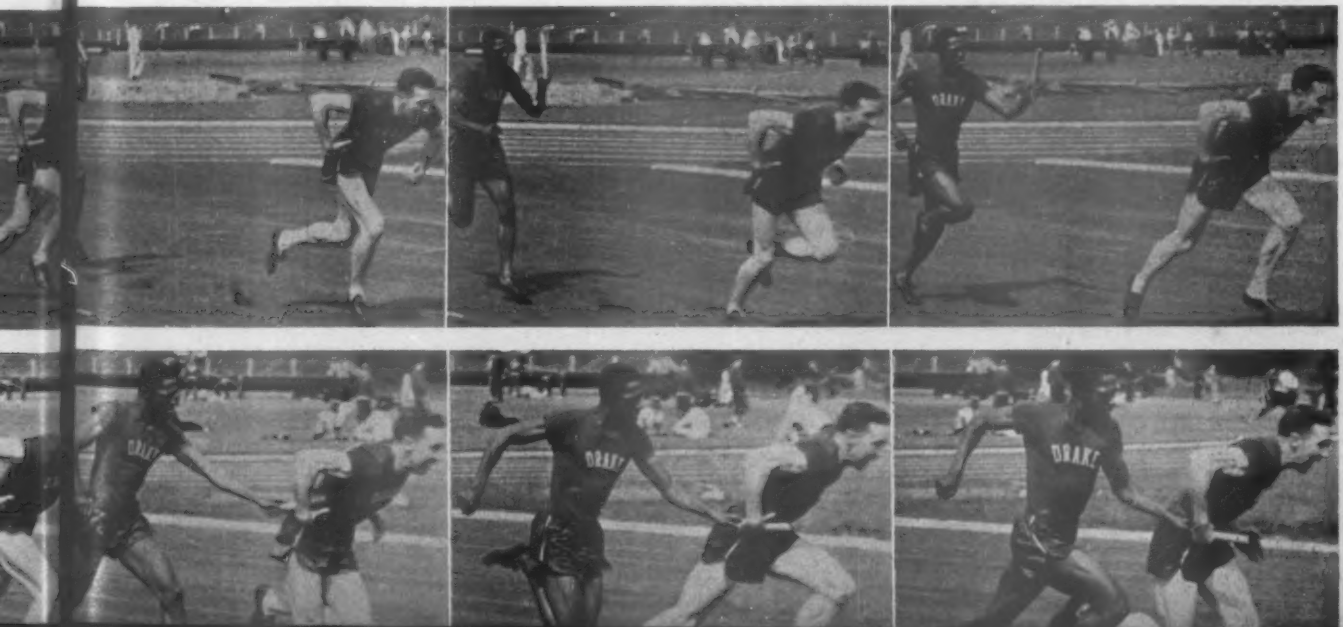
pointing up. When using this method, the incoming runner lays the baton in his teammate's hand with an over-

hand action (Series A, Illustration 4).

The other method in the visual pass is for the outgoing runner to extend his right arm back, thumb pointing out and palm downward. In this method, the incoming runner will place the baton in his teammate's hand with an underhand action. Series A, Illustrations 1-8 show the visual method quite well. It will be noticed that the foot position of the outgoing runner is such that it allows him a quick and powerful get-away. His left foot is extended straight forward and his right or back foot is at an angle.

It is important that the first step with the left foot be directly in front of the runner so that he does not step out of a straight line. Series A shows the outgoing runner maintaining a straight direction although his eyes are on the incoming runner.

There is no pre-determined time for the outgoing runner to start;





(Series C)

Non-Visual Exchange



therefore, he is required to estimate rapidly the speed of the incoming runner and take the advantage of a slight running start. This series shows that Lavery has estimated the starting time when Ford is about two or three yards away and has taken two complete running strides by the time the pass has been executed. This exchange assures a great degree of safety.

One of the real errors that an outgoing runner may make in this type of exchange is to lead the incoming runner too much when the incoming runner may be faltering in his speed.

Responsibilities of the Incoming Runner in the Visual Method

1. The incoming runner must maintain strong form until he reaches his teammate. He should keep a strong arm action and extend his hand at the right time. In Series A, Ford has extended his arm too early, instead of pumping right up close for the exchange.

2. He must know the relative lane his teammate is in.

3. An incoming runner must determine quickly when and where to pass an opponent toward the last part of the race. He must know what relative lane the opponents exchange in, so that he does not foul or get cut out when opponents are crossing to the right or left for their exchanges.

4. He should continue to run in a straight line after making the exchange so that he does not hinder the outgoing opponent.

Responsibilities of the Receiver

1. The receiver must know his position in regard to lane assignment;

he should be close to the back line of the passing zone and have the front passing zone well in mind.

2. He will have to determine when to start and how much to lead the incoming man.

3. The receiver must maintain a correct hand and arm position, with his fingers spread wide and relaxed.

4. He must move in a straight line down the track, while making the exchange, and must be aware of the runners on his left when he is cutting for the pole. Series A shows how a runner may maintain a straight course while keeping his eyes on the incoming runner.

In 1951 a different method of placing teams for the exchange was used in the mile and longer relays. The accepted method of reversing the lane position of the Number 2 and Number 4 runners over the Number 1 and Number 3 runners has always been confusing and disadvantageous, especially in relay races which involve several teams. This different method, which was used experimentally in several big meets involving relay races, was very successful and simple to execute. Each relay team member was instructed that his exchange position in the zone would correspond to the position of his incoming teammate as the incoming man came off the last curve. Thus, the responsibility for exchanging positions was placed on each boy. If a team was leading off the last curve, the receiver would move over and exchange on the pole position. If the incoming man was sixth off the curve, the receiver would receive in the sixth position.

This method has several good points. First, it gives the leading team the advantage of not having to cross to an outside position for the ex-

change, thus cutting down the distance and making for faster times. Also, this method eliminates the criss-crossing of runners coming in since the incoming men are always moving to the outside as they approach the finish. The contestants did a fine job of knowing what position to move to, and in most of the meets, the clerk of the course was of great assistance in acquainting the boys with this new method.

The Non-Visual Method of Exchange

The non-visual method of exchange is entirely different and variations are used, the whole object being to save as much time as possible on the exchange. More responsibility is placed on the passer and less is placed on the receiver. Series B, Illustrations 1-10 and Series C, Illustrations 1-10 show two different techniques. Series B shows the receiver with his fingertips on his hips, and it will be noticed that the passer uses an overhand action in placing the baton in the cradle of the receiver's hand. In Series C, the receiver has his thumb on his hip, and the passer uses an underhand method in placing the baton. Both techniques are the same as far as the responsibilities of the passer and receiver are concerned. We stress the value of accurate practice to improve these techniques.

1. The receiver stands set with his feet pointing straight down the lane, and stays to the extreme left of his lane to give the incoming man plenty of room. His back foot is close to the line of the back zone with his foot placement similar to that used in starting blocks. He stands with his knees flexed, with a forward body lean, and with his head turned slight-



bers run in the opposite direction from the odd-numbered men, it is difficult to execute a baton switch. The race is run on the track straightaway or on the football field, the distance being determined by the facilities available and the rules governing hurdle placement.

There are different methods of setting off each successive runner. At the Drake Relays we allow each runner to use starting blocks. The second, third, and fourth runners have inspectors stationed directly behind them, and the inspector holds his hand on the back heel of the outgoing hurdler. When the incoming hurdler reaches the last hurdle, the outgoing man comes to the "get set" position. The inspector removes his hand as the incoming hurdler touches the left shoulder of the outgoing hurdler with his outstretched left hand. This method of holding on to the hurdler's heel is done to keep the outgoing man from fudging on the exchange. The inspector is instructed to use discretion on the firmness of his hand-hold.

Another method used to set off the hurdlers is to place a portable post between the lanes and the outgoing hurdler. The outgoing hurdler may leave when the post is touched by the incoming man. Still another method: The outgoing hurdler stands in a crouched position similar to the sprint relay position, and holds his right hand in an outstretched position. He may leave when it is touched by the incoming hurdler.

Frequently there are violations in leaving the blocks too soon on the shuttle hurdle exchange. This has brought about many controversies. If our memory serves us correctly, the

(Continued on page 48)



(Series D)

Shuttle Hurdle Relay

The shuttle hurdle relay is such that it is impractical to use a baton. Since the even-numbered team mem-

ly to the right so that he may see when the incoming man hits the target. The target will be approximately $5\frac{1}{2}$ to $7\frac{1}{2}$ yards from the back line exchange of the zone. The distance from the back line to the target is determined by the take-off speed of the receiver and the incoming speed of the passer.

2. As soon as the incoming man reaches the target, the receiver starts in a sprinting action. After three or four strides, the receiver places his receiving hand in position for the exchange. The receiver should sense the nearness of the incoming man at about the middle of the exchange zone.

3. The incoming man and the receiver should make contact at about 12 or 15 yards from the back zone. This, of course, gives them a 5-yard margin if their timing is slightly off. The number of steps used in the zone is not as important as the ability to execute the switch within a 15-yard area.

4. An incoming man should sprint in with good sprinting action and not anticipate the exchange.

5. The passer is responsible for hitting the receiver's hand and must place the baton firmly and accurately. Series C, Illustration 10 shows that Ford placed the baton too far forward and Lavery had to grasp the

baton where Ford was holding it. Fortunately, the baton was not dropped. In Series B, Illustration 1, and Series C, Illustration 1, Lavery has started or completed his fifth stride and the receiving hand is in place. In the subsequent illustrations, the boys have completed the switch at the end of the eighth stride after the original stance. Series B, Illustration 9 and Series C, Illustration 9 shows that the timing of both runners was excellent. The receiver has not overled the passer and the passer has reached the receiver at just the right time. They have completed their exchange approximately 15 yards from the back zone.

Nothing has been mentioned about the change of the baton from the right to the left hand after it is received. Series D, Illustrations 1-10 give an excellent example of what happens. It will be noticed that the baton is switched from the right to the left hand immediately upon receipt. It is switched on the first stride, allowing perfect synchronization of the arm and leg action. This practice should be employed in all orthodox exchanges.



Beginning Triples Balancing

By JAMES A. BALEY

Physical Education Department, Ohio Wesleyan Univ., Delaware, Ohio



TRIPLES balancing is an activity which develops strength, endurance, balance and the ability to work with others. When analyzing the cause of failure to succeed in a stunt, it is easy for a boy to shift the blame on his partners. He will soon learn; however, that following this pattern will not lead to success. A boy must learn to regard himself as part of a team, all parts of which must work together.

As part of an exhibitional group, triples balancing never fails to be one of the favored acts. This act has been successfully used as half-time entertainment at basketball and football games, during assembly programs, and at dances and other school or campus social events.

Very little use has been made of this excellent and pleasurable conditioning activity in the service curriculum classes. It is one which may be taught easily to fairly large groups of boys. In a class, the first thing to do is to have the boys fall in according to height. Then the line should be divided into three groups. The first third of the line will serve as bottom men, the second group as middle men and the third group as top mounters. The position of a few heavy short boys or tall thin boys may have to be changed. By having the second group take two steps forward and the third group four steps, and then have them do a right face, then march forward in front of the first group, and finally have them do a

Series A

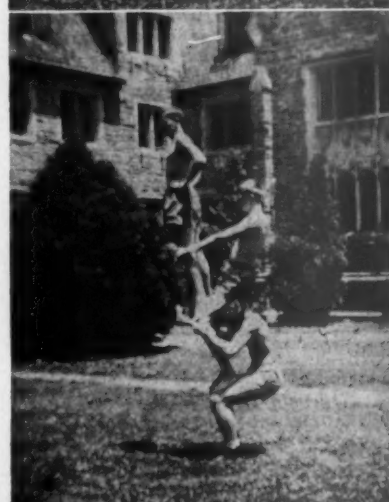




Illustration B

left face, they will be brought into position quickly and easily. One group of three men should always stand in the preferred position to "spot"—or guard against falls while the other group of three men practices the stunt.

The first stunt shown in the illustrations is called the "Triple Thigh Stand" or "Three Airplanes." In learning the procedure of this stunt, the middle and bottom men should learn their parts alone.

The bottom man should stand with his toes 6 inches behind the heels of the middle man who is standing with his feet about 18 inches apart. Then the bottom man squats low with his buttocks on his heels and his back as nearly perpendicular as possible, and places his head between the thighs of the middle man. He then stands erect, keeping his back as nearly perpendicular as possible to insure that he does the major lifting with the more powerful muscles of his legs. During the lift, the bottom man may assist himself with his arms by placing his hands on his knees, fingers pointing inward.

The middle man, as soon as his feet are clear of the ground, should hook his insteps around the back of the bottom man and squeeze. His back should be straight throughout the stunt and his hands should be on his hips. He should resist the temptation to balance himself and allow the bottom man to do the balancing. During the lift, the bottom man may assist the middle man in maintaining balance by holding the middle man's shins and with his own forearms on his thighs assist himself in the lift.

After the bottom man is standing erect, and the two have their balance under control, the bottom man



Illustration C

should squat slightly so as to present as nearly a horizontal thigh to the top man as possible. Then the middle

Series E



Illustration D

man places his feet on the bottom man's thighs with his toes just over his kneecap and comes to a standing position, keeping his back as nearly perpendicular as possible. The bottom man may assist the middle man by placing his feet on his thighs, and as soon as this is accomplished, he should grasp the middle man's knees while he comes to the standing position; the bottom man meanwhile pulls his head out and extends his arms.

After the bottom and middle men have mastered this simple doubles stunt, the middle man should learn the stunt with the top mounter. This time the middle man performs the bottom position while the top man plays the top position.

The foundation has now been laid for the triple thigh stand. With determination, particularly on the part of the bottom man, the stunt should be learned in a short time.

Illustration A1 shows the starting position. In Illustration A2, the middle man is hoisting the top mounter. Illustration A3 shows the bottom man lifting both his partners. It will be noticed that the lifting is being done with the legs. In Illustration A4 the middle and top men are sitting on the shoulders of the bottom man with their legs hooked tightly. Notice the perpendicular backs of all three men, and that the bottom and middle men are pulling down hard on the knees of the men above them in order to make one unit of the three. In Illustration A5, the bottom and middle men have squatted partially, and the top and middle men have placed their feet on the thighs of the men below them. In executing this part of the stunt, the bot-

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Offense or Defense Responsible?

By FRED HUMPHREY

Basketball Coach, Villisca, Iowa, High School

ONE of the most controversial of basketball's basic principles is the question of whether the responsibility for forcing the action lies with the offensive team or the defensive team. Contrary to the opinion held by many, we believe that to point the finger of responsibility toward the defense does not mean an end to the zone method of coverage, a return to the 18-15 scores of several years back, a great loss of spectator appeal, or any of the other consequences so frequently predicted as a companion feature of this philosophy.

In the past few years, a number of articles and coaching school discussions dealing with this subject have had as their premise the assumption that the responsibility for the development of action rests entirely with the offensive team. Those of us who feel just as strongly that full blame for the slowing down of play should be placed squarely on the shoulders of the defensive team, which falls back in its shell and refuses to advance beyond the free throw circle, reason along the following lines.

With the great strides made in offensive systems in the comparatively short period of time since Dr. Naismith introduced basketball in 1891, it is at present almost impossible for any team to play a man-for-man defense without at times incorporating zone principles; and conversely, a team employing zone coverage must frequently adopt a man-for-man style of play or find itself hopelessly beaten. Thus, while there are basic defensive styles, we frequently find it impossible to distinguish the type of defensive deployment being used in a given game. Often sliding-zone defenses are classified as shifting or floating man-for-man defenses and vice versa. With these conditions prevailing, it appears that a lack of defensive aggressiveness is not a characteristic of any specific type of defensive play, but rather of the strategy being used by the coach or team in question.

A discussion of the responsibility of the offense in carrying the attack to the defense appeared in a very interesting article by Mr. Stafford H. Cassel published in the *Athletic Journal* for October 1950. However, the theories of those who believe that the defense, whatever type is being employed, is responsible for aggressive play, present an equally sound case.

The contention by Mr. Cassel that football teams are not allowed to stall may be questioned. It is very true that the ball must be put in play within twenty-five seconds, but how it is put in play is entirely the choice of the offensive team. It is easily possible for a football team to stall out the last few minutes of a game without making one true offensive effort. This is done through the use of the full time between downs and the running of quarterback sneaks or time-consuming end runs. In addition, a football team can be penalized only five yards in case it fails to put the ball in play in the required amount of time. Action of this type occurs hundreds of times every weekend during the football season and is rightfully termed good strategy.

FRED HUMPHREY graduated from Tarkio College in 1946 after earning five letters in basketball and track. Then he stayed on at Tarkio for a year as assistant coach in all sports. Following three years at Glenwood, Iowa, High School, where he coached basketball and track and assisted in football, he moved to Arkansas City, Kansas, Junior College. This current school year he returned to Iowa high school coaching, assuming the head basketball spot at Villisca High School.

On the other hand, a basketball team is also required to follow a time rule. The ball must be put in play within five seconds after it is received out of bounds and must be advanced to the front court within ten seconds after possession is gained. These two regulations, along with the three-second rule covering the free throw lane, are advantages the defensive team already enjoys in forcing the offensive team to attack in given areas. The penalty for the violation of each of these rules is complete loss of ball possession.

Basketball is probably the most difficult game to officiate because of the rapid action and the great number of judgment decisions required of the officials. To institute a rule requiring the offensive team to attempt to score would make it necessary for the officials to be mind readers.

In our opinion, the final decision in the matter of responsibility for forcing the play should not be made on the basis of which team is on offense and which team is on defense, but rather from the standpoint of which team is behind in the score. Possession of the ball is necessary, in order for the trailing team to win, and no legitimate philosophy can dictate that the leading team must attempt to score. Basketball is a game in which the team making fewer errors wins. An offensive team, with the score in its favor, cannot be required to attack a retreating defense, when its chances of gaining a scoring opportunity, before possession is lost through an error, are much less than if the defense is forced to meet the play over the entire front court area. The responsibility is clear. The defensive team, if trailing in the score, must meet this challenge and make every effort to gain possession of the ball. If the victory cannot thus be gained, then in no way is the team deserving of it.

If the team in possession of the ball is behind in the score, it must be carrying the attack to its opponents constantly. The defensive team is definitely cleared of any responsibility for a "stalling" game in this situation if intelligent strategy calls for a retreating defense.

Merely mentioning the term ball possession brings forth as many prejudices in the minds of some as does the term zone defense in the minds of others. Ball possession should never be defined in such narrow terms that it implies only stalling tactics or low score games. Rather, it should imply a scientific approach to a basketball offense with the result being in the form of planned offensive shooting and not the random scoring thrusts that often prevail.

A brief survey was made of the opinions on the importance of ball possession as expressed by most of the great coaches in the history of basketball, and we were unable to find a single statement which contradicted the belief that possession of the ball, as defined above, is one of the most vital factors in a winning basketball performance. The coaching philosophies and ideas on game tactics of the men included in the survey varied from coaches who are considered the

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The Psychological Aspects of High School Basketball

By JULIUS CONN

Director of Athletics, Newport News, Virginia, High School

DURING twenty-five years of coaching basketball at Newport News High School, it has been our experience that in order to have the basketball players mentally as well as physically fit it is necessary for us to know each boy. The boys' parents, home life, habits and emotions must be known. It is impossible to treat all boys alike when their errors are being corrected. Different boys respond to different approaches. The coach has to put his arm around some boys when pointing out their mistakes; while others almost demand that he correct them firmly and severely, in order that they may understand. Some players demand open criticism, while others cringe under such abuse. It is necessary to drive some boys and speak kindly to others. We believe that gaining the respect of the boys is 60 per cent of our coaching job.

Never make a promise, whether it be disciplinary or otherwise, that cannot be kept. A player will have to be told if he does a certain thing, a certain thing will happen. When a boy sees that the coach stands by his word, he has been won for life. The players should be given the true facts, and once their confidence has been gained, the coach's road will be easier.

This game of basketball has become so fast, it is often necessary to use fast break, race horse tactics, therefore; the players must be in condition mentally and physically. Also, they must have a good knowledge of basketball principles and rules. The boys learn these principles — dribbling, passing, and shooting — in gymnasium classes, intramurals, while playing on eighth or ninth grade class teams or in junior varsity basketball. These youngsters have played games before spectators and are seasoned in game conditions.

By the time the boys are ready for the varsity, it is our job to add thinking to their basketball knowledge. They have been steeped in our theory of play, conditioning and training; but there is still a great deal of work to be done to mold them into a playing unit. The first step is for the boys to learn to live our motto — "One for All, and All for One." All of the players must recognize the importance of playing for unity and not stardom. Sometimes it is a difficult task for a coach to develop this feeling. When the players have learned brotherly love and have developed friendship for each other, they begin to play as a team.

From long experience, we have found it is wiser and more tactful not to criticize the team after a game has been lost. The only words we ever use are "tough luck." If we have any criticisms to offer, they are made at practice the following day. These criticisms are always technical and concern mistakes made in play. No boy has ever been accused of losing a game; however, the reasons why the game was lost are stated. These include poor shooting, poor passing, improper training, due to lack of sleep, and improper diet. If the boys win a game and look bad, they are really criticized. It is easier to take criticism after a game has been won. When the boys play with their hearts, they are hurt sufficiently if they lose. Why add more punishment? We have had boys in the past who tried to persuade

will let us win, if not may we go down in defeat as good sports and gentlemen." These words have been carried over from year to year by boys who have returned to the squad. Of course, they add anything that is in their hearts or on their minds before going down to play. At one time, we were known as "The Praying Typhoons."

This year, because of inexperience, lack of height, pressure and excitement, our boys missed much sound, restful sleep and a number of meals. This resulted in many sore throats and a number of colds. Upon the advice of a physician, we purchased 500 vitamin tablets. The boys took one each morning before going to class and one every afternoon before practice. At first they hesitated and were resentful, but because of their respect and confidence in us they agreed. For three weeks before the state tournament, and during the tournament they took the tablets. Aside from the fact that there was not one cold on the squad during the tournament, the psychological effect was unbelievable. After winning the tournament, the boys' first remark was, "Coach, those vitamin tablets did the job." It is our firm belief that these tablets had a physical as well as a mental effect on each boy.

Every coach knows it is necessary that each boy on the squad like the others as if they were brothers, or the best of friends. If there is any dissension or jealousy among the first five, there will never be the co-operative spirit necessary to win basketball games. We check regularly with our captains and are alert at all times to see that the boys are really getting along with each other. Much time has been spent straightening out differences among the players. This spirit of teamwork and brotherly love led to our slogan — "One for All, and All for One." This spirit of oneness, friendship and love thy brother has been as important to us as daily practices, setups and drills.

Newspaper publicity is good and necessary, but we do not believe in too much of it during the season. It is our contention that it is better to show how good we are rather than to read it. Many a good team has met defeat because of over-confidence. We like to go into a game as the underdog when we play much publicized teams. It has always improved the spirit of

(Continued on page 54)

JULIUS CONN graduated from the University of Virginia and returned to his high school where he was recently honored for twenty-five years of service. In that time his basketball teams have won the state tournament five times and been in the state finals ten other times. His track teams have won ten state championships. Conn also serves as athletic director at Newport News.

us to say that they lost the game. It is our belief they were trying to read our minds. We would rather blame ourselves by saying, "We substituted wrong or played a boy too long."

Our boys go into each game with the feeling that they are well-coached and well-prepared. They expect to win, but know it will be a hard fight. In the past, they have overcome many odds by sheer determination and fight. They will not and cannot accept defeat. The boys know that when the going gets tough and rough they cannot give up. If they do, there is a substitute who is eager to get into the game.

Our boys have prayed before every basketball game. We used to pray on the floor before each game, but were afraid some people might misunderstand the true meaning and think we were insincere. From then on, we prayed in the dressing room, with the boys taking turns asking, "that the game be played fair and square, and may the best team win. If it be Thy

Training and Conditioning for Competitive Swimming

By NORMAN A. GRAY

Blair Junior High School, Norfolk, Virginia

THE purpose of this study has been: (1) to obtain authentic information regarding the training and conditioning methods used by experienced coaches throughout the United States; (2) to present a brief summary of the training methods employed at the present time, and in the past, through a study of the literature available in the field; (3) to reach some reasonable conclusions from the survey of the coaches' opinions which will serve as a basis for training and conditioning methods in the future.

One hundred and sixty-nine questionnaires were submitted to coaches in colleges and universities throughout the United States, as listed in the 1950 *Official National Collegiate Athletic Association Swimming Guide*. Fifteen personal interviews were held with coaches at the New England Intercollegiate Swimming Championships, held at Massachusetts Institute of Technology, and at the National Amateur Athletic Union Championships, held at Yale University in March of 1950. One hundred and twelve questionnaires were returned to the writer, or a percentage of 66.27.

The training of today keeps in mind the fact that the swimmer is human and that he will not swim well when he is overtired; when he has the use of a training table his diet is plain and wholesome. The general setup today includes a diet that is simply designed, one that will provide great variety and yet not cause any undue distress.

In the results obtained from the coaches' replies, some facts are readily seen with regard to diet, utilization of a training table, the recommended time and proper meal for swimmers prior to a contest. Over 90 per cent of the coaches who replied indicated that they do not use a training table because, as their supplementary remarks pointed out, many swimmers live in dormitories or in fraternity houses, or because the swimmers are married and live at home, or because the schools do not have the necessary finances to supply a training table. A special diet was recommended by 53 per cent of the coaches but they found it difficult to see that their swimmers followed the recommendations.

The use of milk in the training diet has long been the center of controversy. Eighty-four per cent of the coaches who returned the question-

naire recommended milk in the training diet. The majority of coaches recommend milk for all meals except the meal just prior to a contest, with the next greatest number of coaches recommending milk at all meals except on the day of the contest.

Those coaches who do not recommend milk in the diet gave the following reasons: (1) milk interferes with the respiratory systems of the swimmers; (2) milk makes some swimmers ill; (3) milk causes a stitch in the left side of some swimmers; (4) milk sours some swimmers' stomachs; (5) milk is too hard to digest and is too heavy; (6) milk increases the amount of lactic acid produced during exercise.

Table I
The Times or Meals Preferred by Collegiate Swimming Coaches for the Drinking of Milk

	Frequency of Replies
1. At all meals	20
2. At any time	7
3. After meals	1
4. At lunch only	1
5. At supper only	4
6. Stop two days before meet	2
7. Any time except on day of a meet	19
8. At lunch and supper	1
9. At breakfast and supper	10
10. At all meals except just prior to a meet	24
11. After the meet	1

A decided preference was shown by coaches for meat of some kind (broiled steak, chops, or roast beef), baked potatoes, toast, and tea. In some cases poached, boiled or dropped eggs were

Table II
The Frequency With Which Coaches Recommend Certain Foods for the Last Meal Before a Contest

	No. of Recommendations
1. Meats	
Broiled steak	19
Roast beef	14
Other	10
2. Vegetables (green)	24
Potatoes (baked)	27
3. Eggs	
Poached	13
Boiled	3
Dropped	2
4. Toast	44
5. Tea	38
6. Soups	9
7. Fruit juices	9
8. Milk	3
9. Coffee	1
10. Desserts	24
11. Honey	8
12. Butter	5
13. Easily digested foods	21
14. Oatmeal	1

recommended. According to the majority of the coaches, this meal should be eaten two to three hours before a contest. The next greatest number of coaches recommended three to four hours before the contest.

Does massage have any value in the training program, and if so, is the value psychological or physiological? The majority of the coaches, 72 per cent, believe that massage has some value in the program. An outstanding majority of the coaches indicated that they believed massage had both a physiological and psychological value. Supplementary remarks showed that in many colleges massage is available if the swimmers want it. Most coaches indicated that their swimmers receive massage between events, during a meet.

There are many and varied types of lubricants employed in massage, according to the returned questionnaires. The use of oil is generally frowned upon for the arms and legs because it is believed to reduce the amount of traction a swimmer gets while swimming. If oil is used on these parts it should be removed, by the use of alcohol, before the swimmer enters competition. Light oil and alcohol top the list of lubricants for the arms and legs as well as for use on the swimmers' bodies.

Modern swimming coaches agree that a swimmer should be given a pre-season training program, whether it be on land or in the water, in order to prepare him for the more rigorous work to follow during the competitive season. It is a popular opinion held by many coaches that the swimmer of today is never "out of condition" since he swims the year around, and thus there is no need for a pre-season program. Some of the coaches (57 per cent) stated that they have a pre-season program (body-building), but according to those who do not have such a program, the lack of time, funds and equipment are the main reasons. If these factors were eliminated, they too would have a similar program. The same reasons apply to those coaches (59 per cent) who replied that they did not utilize pulley weights daily for the development of swimmers' shoulder and shoulder girdle muscles. Well over 60 per cent of the coaches stated that their swimmers do exercises daily to develop or strengthen the lower back muscles, the

leg muscles and the abdominal muscles, and to increase general flexibility.

The amount of time coaches devote to pre-season daily calisthenics periods is between 10 and 19 minutes. The next greatest number of coaches devote between 30 and 39 minutes daily. Most coaches indicated that they would like to spend more time on calisthenics, but here again time, facilities and funds enter the picture. Most of their swimmers do, however, devote several minutes daily to limbering up and warming-up exercises before they enter the water.

The number of weeks devoted to pre-season body-building ranged from 1 to 2 weeks to between 11 and 12 weeks. Three to 4 weeks was the popular length of time, with 5 to 6 weeks following close behind.

Of those coaches who have a pre-season program that lasts longer than three months, 66 per cent believe that a slacking-off period is necessary. Most of those not recommending a tapering-off period believe that top swimmers have no need for such a period.

During the competitive season, swimming coaches use different methods and have different practices, just as they differ in the pre-season post-season programs, and in their recommended diets. With regard to sugar feeding before a contest and between

NORMAN GRAY had his schooling at Springfield College interrupted by three years of service in the navy. Following graduation in 1949, he held a graduate assistantship under Charles Silvia in swimming. After receiving his master's degree in 1950, he reported to Norfolk, Virginia where he is a member of the physical education staff at Blair Junior High School.

to the needs and abilities of the swimmers. Most coaches do not use a stop watch daily to check their swimmers' pace, but many coaches indicated that they used a watch two or three times a week to check pace.

Seventy-five per cent of those coaches who replied stated that they set down a training code for their swimmers to follow during the competitive season. The great majority of these coaches prohibit their swimmers from smoking during the season; however, 62 per cent stated that some of their swimmers smoke during the season. The coaches explained that many of their swimmers who smoke are older men, ex-G.I.'s, or sprinters and divers. Over 80 per cent of the coaches believe that smoking lowers the efficiency of a swimmer.

With regard to the drinking of al-

coholic beverages, 72 per cent of the coaches replied that they prohibit their swimmers from indulging. Only 53 per cent of the coaches replied that some of their swimmers drink alcoholic beverages, while 88 per cent stated that they believed such indulgence lowers the efficiency of their swimmers. In both smoking and drinking, many of the coaches agree that they had no positive proof that the swimmers' efficiency is lowered by smoking and drinking. Eighty-eight per cent of the coaches believe that the best policy with regard to smoking and drinking of alcoholic beverages is to take some definite action in the matter. Supplementary remarks show that coaches make some effort to discourage the use of tobacco and alcoholic beverages, but it is difficult to control because of the housing situation on many campuses (fraternity houses, off-campus rooms, and married men living with their families). Most of the coaches said they had no way of knowing whether their boys indulged or not.

Tapering-off periods during the season and at the end of the competitive season are highly favored as was shown by the returns. Sixty-eight per cent of the coaches favor a tapering-off period the week of a contest. It is necessary to have a tapering-off period since many teams travel by car to meets and must leave rather early when swimming away from home. At the close of the competitive season most coaches provide a period in which the work is gradually decreased, and such activities as water polo, water basketball, life-saving, recreational swimming, and instruction of swimming classes are provided.

The type of workout on the day of the contest varies with the different coaches, but for the most part the average workout consists of light, easy, loosening-up swims, a few laps using arms alone, legs alone and then the whole stroke. The time for these workouts varied from the morning of the meet to an hour or two before the meet. The emphasis tends to be

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Table III
Some Habits and Practices of Coaches With Regard to the Competitive Season Program

	Yes	No	% Yes	% No
1. Do you give your swimmers sugar or similar products before a contest?	42	82	33.88	66.12
2. Do you give your swimmers sugar or similar products between events?	36	88	29.03	70.97
3. Do you correct minute errors in your swimmers' stroke mechanics?	83	39	68.03	31.97
4. Do you correct gross errors in your swimmers' stroke mechanics?	121	3	97.56	2.44
5. Do you keep a record of the number of laps each swimmer does daily?	81	43	65.3	34.7
6. Do you make up daily workout schedules for each swimmer based on his individual needs and abilities?	95	29	76.61	23.39
7. Do you use a stop watch daily to check your swimmers' pace?	54	68	44.2	55.8
8. Do you set down a training code for your swimmers to follow during the competitive swimming season?	94	31	75.2	24.8

events, only a small percentage of coaches indicated that they utilized sugar or similar products.

Ninety-seven per cent of the coaches replied that they make corrections of minute errors and gross errors in swimmers' stroke mechanics. Many said that they make these corrections as the need arises.

The number of laps a swimmer swims daily is recorded by most coaches as a means of checking the amount of work swimmers do each day. A majority of the coaches stated that these workouts are made up according

Table IV
The Number and Percentage of Coaches Whose Swimmers Smoke During the Competitive Season

Total No. of Questionnaires Sent Out	Total No. of Questionnaires Received	Total No. of Questionnaires (Returns and Interviews)	Total No. Answers	Yes	No	% Yes	% No
169	112	127	118	74	44	62.7	37.3

Table V
The Number and Percentage of Coaches Whose Swimmers Drink Alcoholic Beverages

Total No. of Questionnaires Sent Out	Total No. of Questionnaires Received	Total No. of Questionnaires (Returns and Interviews)	Total No. Answers	Yes	No	% Yes	% No
169	112	127	109	58	51	53.21	46.79

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Results of the N.C.A.A. Restricted Television Plan

PROBABLY the most important item which came out of the Football Coaches Association Meeting and the N.C.A.A. Meeting in Cincinnati, from the viewpoint of the scholastic administrator, was the almost unanimous decision to continue the restricted television arrangement that existed this past fall. The news services carried this news to all of the newspapers of the country, but failed to go into the thinking behind the action. This, we feel, should be noted, for if nothing more, it does tend to point out the drastic effect television has on attendance.

At the Dallas meeting a year ago, the N.C.A.A. voted to make a thorough study of the television question during the 1951 football season. They employed the National Opinion Research Center to make this study for them. Four different arrangements were used during the past season which were:

1. On certain Saturdays one game would be nationally telecast over the entire network.
2. On certain Saturdays there would be no national telecast, but Eastern games would be piped to the West and vice versa.
3. On certain Saturdays sectional games were telecast within their own section only.
4. Every city on the network was blacked out for one Saturday.

The N.O.R.C. contacted over 100,000 individuals in the course of their study. Two national cross-section surveys were made, one around Labor Day and the second around Thanksgiving. The areas of Pittsburgh and Boston were selected for detailed study and a cross-section sampling of 500 football fans was made every week of the season

regarding their week end activities. Seventeen colleges conducted questionnaire surveys of their stadium audiences. Seven colleges conducted telephone surveys of their fans on Saturdays when home games were being played. Seven colleges carried out mail questionnaire surveys of their alumni and students. In addition, game by game attendance reports were collected from 269 football-playing member institutions of the N.C.A.A. Finally, seasonal attendance data from 1947 to date were requested from a cross section of 250 high schools all over the country.

This tremendous amount of material has not been thoroughly analyzed but the overall trend was unmistakably clear. The following, taken from the report of the Television Committee indicates the manner in which the restricted N.C.A.A. television program checked the alarming downward trend in football attendance. "Overall attendance during 1950 was substantially the same as overall attendance during the normal' or base period,' the 1947 and 1948 pre-television seasons. Overall attendance during 1951 was down about 6 per cent from both base-period attendance and 1950 attendance. This overall drop was due to the decline in student enrollment of over 10 per cent and the general sports attendance fall-off. In 1950, when television competition was generally unrestricted, attendance in TV areas was off 7.2 per cent from base-period attendance, while attendance in non-TV areas was up 13.8 per cent over base-period attendance. This differential of 21 points represents the effect of television in 1950. In 1951, however, attendance in television areas under the restricted N.C.A.A. plan was off only 11.1 per cent from the base period and non-TV area attendance was up only 2.3 per cent over base-period attendance. In other words, the television differential was cut from 21 points to 13.4 points in 1951 by the N.C.A.A. plan."

The Television Committee Report went on to outline some individual instances of the effects of television upon attendance; these we also feel bear mentioning. "When it was announced that the blackout of Washington, D. C., scheduled for November 10, was to be shifted to November 17, sales of tickets for the Maryland-North Carolina State game on the latter date accelerated to a point three times the normal rate of sales for the season." "When the University of Southern California and Stanford were seeking permission to telecast their game at Los Angeles on November 10, ticket sales dropped immediately upon publication of the report of the telecast." "When it became generally known that the Michigan-Ohio State game was to be telecast, there was a deluge of requests for refunds or cancellations." "So, too, when it became known that the Colorado-Nebraska game of No-

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Illustration 1. Outside running on the curve is a strategy frequently necessary in the middle distance races. It is not always the hardship popularly supposed.

In Illustration 2, with the exception of the athlete fin-



ishing third—who improved his position from last by running around his opponents—all others placing in this 440 finish have run unnecessary extra yardage by swinging wide off the turn.

Strategy in the Middle Distances

By KENNETH D. MILLER

Track Coach, Florida State University, Tallahassee, Florida

IN the coaching of track and field events, strategy is given little attention, and the average coach devotes a minimum of time to this phase of the over-all teaching job he has to do. In this sport, perhaps more than in any other except swimming, the boy with the highest degree of motor skill is the usual winner, and thus, quite logically, the coach's attention is focused primarily upon technique. Despite the obvious importance of the skill factor; however, in the running events, which are not run in lanes — and especially in the quarter-mile and half-mile distances — a sound knowledge of the most effective responses to various unpredictable race situations is an invaluable aid to the athlete. In the typical schoolboy 440 such "know how" may be worth from five to seven yards against a runner of equal physical ability who lacks such insight, and up to fifteen yards advantage under similar circumstances in the 880.

The experienced runner, of course, has learned much about strategy through trial and error, and most college middle distance men know the strategy of running their events whether or not they have ever had specific training in this important aspect of foot racing. Trial and error, however, is an extravagant method of learning, and the high school coach who can afford such a non-judicious learning procedure in his interscholastic track program is either naive or unduly blessed with highly skilled performers.

THIS is Ken Miller's second article. The first, "The Small Weight Man," appeared last month. His coaching career began as an assistant at his alma mater, Oregon. This was followed by a stay in scholastic circles in California. Following a period as a navy aviator, he coached for two years at Lock Haven (Pa.) Teachers College, before assuming his present position at Florida State in 1948.

The Key Points

From the earliest stages in the middle distance runner's training, the athlete should be continually indoctrinated with an appreciation of the importance of the beginnings of the first and final turns. Aside from the finish line, these two marks are the primary objectives of both the 440 and 880 races, and each boy must understand the vital significance of arriving at each of these posts in a favorable running position. The term favorable running position at the entrance to the first turn may be defined, roughly, as any of the first three places. Specifically, the lead is the best position, and in the middle distance races, runners should always attempt to gain the lead by the first turn, and to maintain this advantage for the entire race if possible. The expenditure of considerable energy in this effort at the start of a quarter-mile or a half-mile race is a small in-

vestment in the light of the resulting dividends. The runner leading such a race has avoided, by this expediency, many problems. As long as he remains in front he sets the pace; he has the advantageous pole position; he cannot be boxed; he is not distracted by variations in form and stride length of his opponents; and he has less distance remaining to be run than any of his rivals. Middle distance candidates should be coached so that front running will be habitual.

Getting to the first turn in a favorable position, incidentally, calls for the strategy of lining up each set of starting blocks on a tangent with the pole lane at the curve. This holds true whatever the distance from the starting line to the first turn, and becomes increasingly important in direct ratio to the shortness of the initial straightaway.

At the entrance to the final turn, a favorable running position must be defined in terms of distance behind the leader, rather than in terms of place position as at the first turn. The lead, of course, is still the most desirable station, and the concern of the other runners must be to keep the front man from extending his lead to an incontestable advantage. Most experienced middle distance men feel that a runner cannot win if he allows an opponent of approximately equal ability to enter the final turn with a lead advantage of more than three yards. The rather evident observation in this situation is that if one man is three yards in front of another at

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any particular stage of a race, the trailing man has, at that instant, three yards farther to run than does the leader. When such a circumstance occurs with the race two-thirds completed, the handicap involved becomes obvious.

Curve Running

Since only one runner in a field will get the lead at the first turn, each of the other competitors must make a quick decision as to his immediate plans. Normally, the field will string out in single-file with all competitors taking advantage of the shorter curve distance in the pole lane. This seemingly logical choice, however, is the wisest one only if the individual runner is ahead, or less than five yards behind the leader. If the athlete has not been able to achieve an advantageous position at the turn, he must sacrifice some effort either by staying with the leaders through holding an outside position, or, if far back in the pack, by moving up on the outside. Actually, the sacrifice demanded in either of these procedures is popularly overrated. At the start of any race, a competitor has built up a large store of excess nervous energy which may be used profitably for necessary outside running, without drawing unduly on the normal amount of physical energy which would be used in the pole lane. During such outside running, the middle distance man should move in closely behind the outside shoulder of the runner in the place he wishes to maintain (Illustration 1).

In high school competition, moving up on the first turn usually requires less output of effort than at any other stage of the race. High school quarter-milers and half-milers normally ease up far past their most efficient coast on the turns, and this fact should be noted by the novice runner early in his training. The best sprinters will get to the turn first, but the sprint-type middle distance runner is often the one who erroneously is most strongly convinced that he must conserve his energy by slowing down in the turns. Despite the importance of running a fast first half in making a creditable time in the middle distance races, standard procedure in school-boy contests frequently consists of a fine battle for the pole, followed by a startling deceleration as the boys jog a casual, non-competitive single-file for the duration of the turn. Runners should not hesitate to better their position on the turn by running outside, if the pace of the front runners slows markedly.

The Back Stretch

The back straightaway of a quarter-mile race — or any straightaway of a half-mile — is the sector of the contest where running "know how" pays its best returns. This is the phase of the match where the competitors have the best opportunity of improving their positions, and, consequently, where each runner should challenge the leaders if he has the ability to do so.

Attention has already been called to the importance of achieving a favorable position at the entrance to the turns. This observation should be underscored by the coach in connection with the final turn. Since the field is usually fairly well spread by this stage of the race, a runner has very little chance of placing unless he is up with the leaders going into the curve.

In passing another runner, the challenger must gather himself and make the entire operation as suddenly and as swiftly as possible. The element of surprise is of invaluable assistance, and a passer should never hope to go by a runner of equal or greater ability by moving slowly alongside and then forging ahead. To succeed, the challenge and pass must be a complete surprise rush. The leader, on the other hand, should attempt to maintain his tactically superior position by preventing a trailing runner from making good in his bid to pass. The problem in this case is to anticipate the challenger's drive, and to accelerate with him. Strategy for the front runner lies in keeping the opponent on the outside until he either breaks and drops back, or is forced to expend an extravagant amount of energy in making good his passing effort. Thus, the situation for a runner in either position fundamentally becomes that of out-smarting the opponent. One attempts to pass in a surprise move, while the other attempts to anticipate and meet any such challenge. The advantage in this situation rests, as always in the middle distances, with the front runner.

The Final Stretch

Strategy on coming into the final straightaway is based upon an inflexible rule and a seeming dilemma. First, the pole lane must be held despite the athlete's natural tendency to swing wide as he comes off the turn (Illustration 2). Many a quarter-miler has unnecessarily lost a race by the inexpedient act of swinging into the second or third lane, and allowing a

more clever competitor to pass on the inside. Besides possessing the estimable quality of being the shortest path to the finish line, strict observance to pole running forces a prospective challenger into the additional effort of running around the leader in a passing bid.

The major problem facing the field as it comes off the final curve into the homestretch is that each runner must build up a lead advantage by starting his final sprint for the tape before his opponents do, and yet the start of this drive must be held off until each man has reached a point from where he may successfully maintain his sprint for the remaining distance of the race without breaking. This dilemma resolves itself, as in many other phases of middle distance running, into an attempt to out-guess the opposition. The clever lead runner, unless he is trying for record time, will maintain his normal coasting stride and momentum up to within 40 to 50 yards of the finish if he is not previously challenged. If an opponent attempts to pass; this bid must be met whenever it occurs on the straightaway or, unless it is obviously made too soon, while still on the turn. A passing bid before entering the straightaway is normally poor strategy, and the front man of anywhere near equal ability immediately has the passer in a most disadvantageous position. With a slight increase in effort, the clever leader is able to hold his opponent on the outside, thus forcing him to run extra yardage, for the remainder of the turn.

Even though no passing attempt is made by the trailing runners during the closing phases of the race, sound strategy dictates that the leader shift from his coast to a definite sprint for at least the final 40 yards. This practice conditions the boy for the all-out effort which will inevitably be called for in the stretch of most middle distance races, and it also aids in providing a velocity guarantee that the athlete will run through the tape. Many a runner has been nipped at the finish while coolly looking down at his fingernails as he eased up to breast the tape.

Conclusion

In conclusion, sound strategy in running the middle distances is as vital to success as is a knowledge of pace, or topnotch physical condition. Strategy in these events, however, cannot be standardized, and must be subject to continual and instantaneous revision due to the infinite num-

(Continued on page 51)

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Movable Backstops

By H. S. DE GROAT

Newtown, Connecticut

AFTER five or six years of experimenting with six or more movable playground backstops, we would like to present the following information and design to the profession for what it is worth. Our experience included trying several designs and a great deal of repair and renailling of braces before this backstop was accepted.



Rear view of the backstop showing the attachment for the side braces and the cross braces of the ground frame. Notice that the cross braces of the ground frame are nailed on the top of both the main frame and the main ground piece.

Front view of the movable baseball backstop.



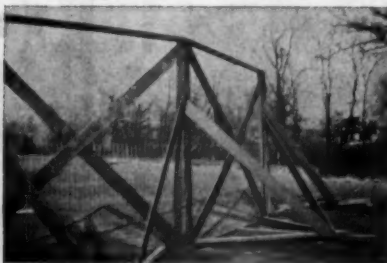
The movable baseball or softball backstop is a *must* on school grounds where a dry spot must be sought during the rainy season if there is to be any participation. If this type of equipment is available, the general program of physical education will move more smoothly. In the spring these backstops may be put in the most likely dry parts on the field.

FOR thirty-seven years H. S. DeGroat has been connected with athletics and physical education, having served as baseball coach at Springfield College for a number of years. He is director of town and school physical education at Newtown, Connecticut, a position which he has held since the war. During the war DeGroat organized the army swimming program for the Officers Training Program and also the physical training program for the Army Air Force at Atlantic City.

They may be placed in singles for daily work or grouped in threes for a big game, such as an interscholastic softball game. If available, they may also be used for batting cages. One of the school departments — either the shop or agricultural class can build these.

During the fall these backstops should be put where they will not interfere with the soccer or football fields; however, they may be used by the grade school children for softball or kickball. Five fourth grade boys

Showing arrangement of three single backstops to make a large triple backstop.



Approximate Cost

2 — 2" x 2" x 8'	@ .38	\$.76	Frame top and bottom
2 — 2" x 4" x 8'	@ .76	1.52	Frame uprights
2 — 1" x 6" x 10'6"	@ 1.20	2.40	Frame cross braces
2 — 1" x 6" x 8'3"	@ 1.00	2.00	Side braces on back
2 — 2" x 4" x 6'	@ .56	1.12	Ground frame cross braces
1 — 4" x 4" x 6'		1.12	Ground center piece
16 ft. 14 gauge wire 4' wide	@ .30	4.80	Wire on front

Total cost \$13.72 or \$3.43 per year

are able to carry one to any part of the field. A heavy fourteen gauge wire is used on the front to withstand the battering of uncaught balls. Younger children often pick the ball up after it hits the backstop rather than catch it in flight.

If any of the backstops are used for hard ball batting cage work, a

(Continued on page 50)



Improvised batting cage. The frame is wired to a regular large fence, but loose enough to permit the frame to swing. The outer end of the frame is held by two ropes passing over the top of the fence and tied to the center cross piece of the fence.

This illustration shows the frame raised for a game.



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Throw the Stealers Out

By JAMES SMILGOFF

Baseball Coach, Taft High School, Chicago, Illinois

IT is the last half of the ninth inning with the score 5 to 4 in favor of the visiting team. Two outs have been made and the home team has a runner on first base. Then the pitcher takes the stretch, up goes his arm and he pitches. The runner on first base streaks for second on an attempted steal. Oh! how I wish we had a catcher who could throw, thinks the visiting coach. A good throw would result in victory — a poor one prolongs the game, the coach's mental anguish, and it may eventually lead to defeat instead of victory.

When a runner breaks for the next base on an attempted steal, the proper mental frame of mind on the part of the catcher is important. Sometimes young catchers become excited when a base-runner attempts a steal, and try to throw the ball too soon, that is, before an adequate grip on the ball is obtained. Occasionally, in their haste to throw, inexperienced catchers will not even catch the pitch cleanly because their body and arm are sweeping into a throwing position before the ball is actually in their possession in the glove.

Good-throwing catchers remain calm when a base-runner breaks for the next base on an attempted steal. They are aware that certain basic steps are necessary in order to throw

well. They know that the ball must be caught cleanly, and then gripped before the throw is actually made.

Gripping the Ball

One basic drill that a catcher should practice is that of tossing a ball three or four feet in the air, and gripping it with the throwing hand as soon as it comes down into the glove. He should learn to pick the ball out of the pocket of the glove cleanly, quickly and with a good grip every time.

Another grip drill, similar to the above, is that of bringing the catching glove upward to meet the ball on its descending flight, thus forcing it into the bare hand for a quicker and firmer grip.

Still another drill is that of moving both the glove and the ball toward the right shoulder (toward the throwing hand) as soon as the pitch is caught. In this way the glove carries the ball toward the throwing hand, and forces it into that hand for a firmer grip. This is in contrast to the throwing hand reaching over to the glove pocket and picking the ball out of the glove.

The Backward Arm Swing

Many high school catchers do not

have sufficient physical throwing strength to take a short backward arm swing, and then throw to second base "from the ear" with a snap throw, so to speak. It is, therefore, advisable, under these circumstances, to use a lower and larger backward arm swing, similar to that of a short wind-up, in order to get more power into the throw. After all, the important thing is to get the ball to second base on the fly. In making the long throw to second base, on an attempted steal, the catcher should coil his body backward with his back arched, as the backward arm circle is described, preparatory to the forward arm action. Coiling the body backward gives fuller forward body action and spring with the throw, and should put more power into that throw.

Striding on the Throw

The catcher's stride, in throwing to second base, should be a long one. This helps the upper body to coil backward, and gives good body and arm leverage for an upward spin on the ball in its release. This upward spin makes the ball raise up or level off a bit, thus creating a longer throw. Just as a pitcher produces a hop or makes his fast ball raise, by producing an upward spin on it, the catcher does

Series A

Looking Back the Runner on Third Base—The first frame shows the catcher riding the pitch into throwing position and looking the runner back toward third base. In the

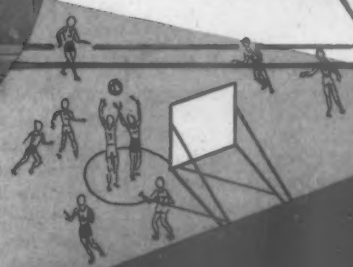
second frame the catcher is starting to turn his head back toward second base at the start of the throw. The third frame shows the catcher concentrating on the throw to second base. In the last frame we see the catcher demonstrating very good follow-through.



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likewise in his throwing to the bases. The long stride, however, is a key body maneuver needed to produce this result.

The Follow-Through

Catchers should follow-through with their arm in making a throw just as pitchers do. This avoids holding back on the throw, and is the final step in a smooth throwing effort.

Riding the Pitch Upward Toward the Throwing Position

Most catchers have more trouble throwing after receiving a low pitch than when receiving a high one. They tend to ignore the backward body coil on the low pitch because they bend over with their shoulders well forward to receive this pitch. When in the crouched position waiting to receive a pitch, the catcher's back should be straight and as upright as possible. This puts the upper body in as close to the coiling position as possible. As soon as the low pitch is caught, the glove then pushes or rides the ball upward toward the throwing position to synchronize with the coiling of the upper body.

The Eye Shift to See a Runner Break

The catcher should be able to see a runner on first base or third base break for the next base on an attempted steal by shifting his eyes quickly from the pitcher to the base-runner. This eye shift may have to be made several times on each pitch. With a left-handed batter hitting, and a runner on first base, the catcher may have to move his catching position slightly forward closer to the hitter or backward away from him in order to see

Series B

the base-runner clearly. But definitely, no shift of the head from side to side is necessary.

Practice Throwing While Wearing Equipment

Catchers should frequently practice throwing to the bases while wearing their equipment. Some catchers become burdened and are hampered in their throwing actions when wearing full equipment, but with proper practice while in full catching gear they may overcome their difficulties and become better throwers. This is particularly true when making the long throw to second base.

Throwing Drills for Catchers

Some drills that a catcher might practice are:

1. During daily batting practice he should make at least ten throws to second base while in full equipment. Some of these throws should be made with a left-handed batter at the plate.

2. The coach should have a pitcher take a stretch position during batting practice and have a runner on first

base take a lead and break for second base with the pitch. Then the catcher tries to throw the runner out, but the runner need not slide as he gets close to second base. He just veers toward center field on the run. The important point here is for the catcher to throw against a runner and get the ball to second base ahead of that runner.

3. Occasionally, catchers may wear full catching equipment while taking infield practice. Thus, they become accustomed to throwing while wearing full gear.

4. Catchers may practice on picking a runner off first base by calling for a pitch-out and teaming up with a first baseman. Here again, base-runners may be used when advisable. This may be done during batting practice, or as a separate drill on the sidelines, or on an adjacent diamond. This same drill should be practiced with a left-handed hitter in the batter's box.

5. A drill, similar to the one just mentioned, should be practiced with the catcher throwing to third base to pick a runner off that base.

6. Another practice drill involves the technique and ability of the catcher to throw over the head of a right-handed batter to get the ball to the third baseman on an attempted steal of third base.

Looking Back the Runner on Third Base

This is one of the most difficult plays for a catcher to make, first, because of the difficulty in making the long throw to second base, and secondly, due to his fear of the runner on third base. One of the best ways to spoil the offensive team's base-

(Continued on page 48)

DURING the years, Jim Smilgoff has authored a number of highly informative baseball articles for us. They have all been written from the high school coach's viewpoint with major league "know how" for Jim has been a highly successful high school coach and serves as a farm team instructor for the Chicago Cubs. In addition, he has served as technical advisor for two movie shorts on baseball.

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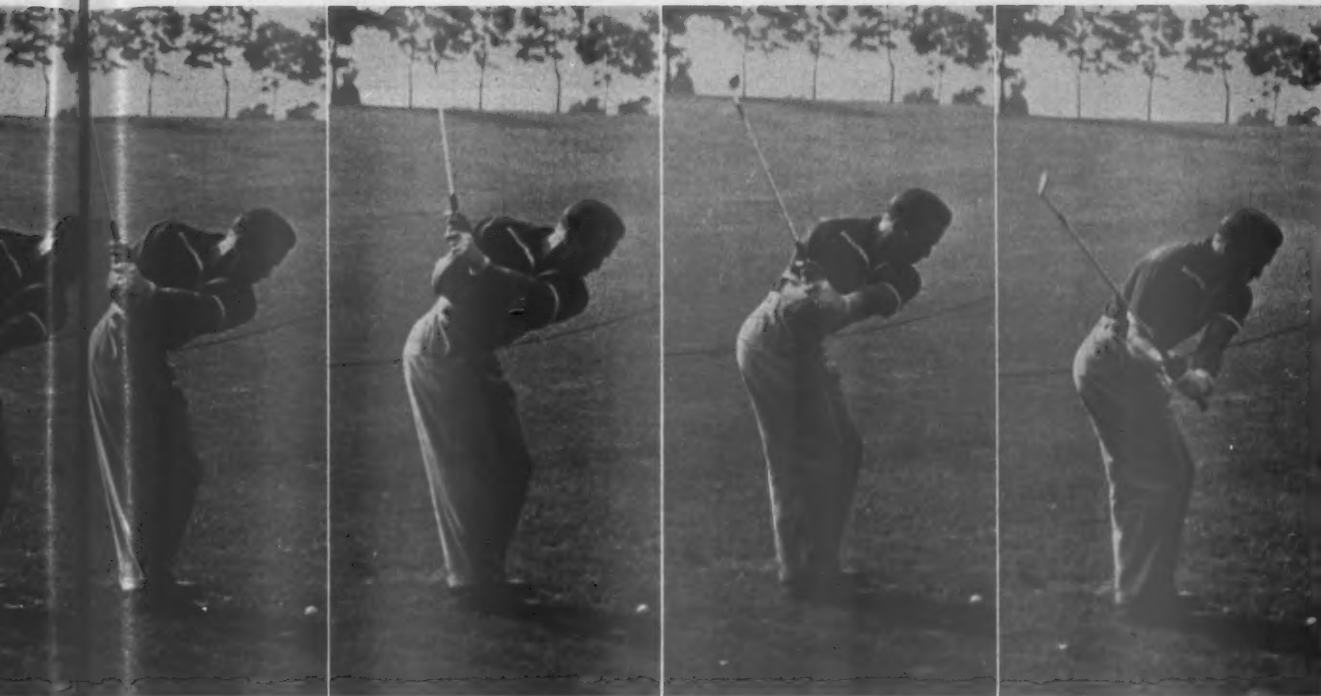
The Short Game In Golf

Demonstrated by **FRANK STRANAHN**, Ranking Amateur

Captions by **JULES PLATTE**, Professional, Knollwood Club, Lake Forest, Illinois

(First of a series)





The numerous excellent points of Stranahan's style are handicapped by tensility that amounts almost to rigidity in critical areas. His address is very good—slightly open, relaxed, the arms in fine easy position and the grip firm but not tight. He is set for a free, compact swinging hit.

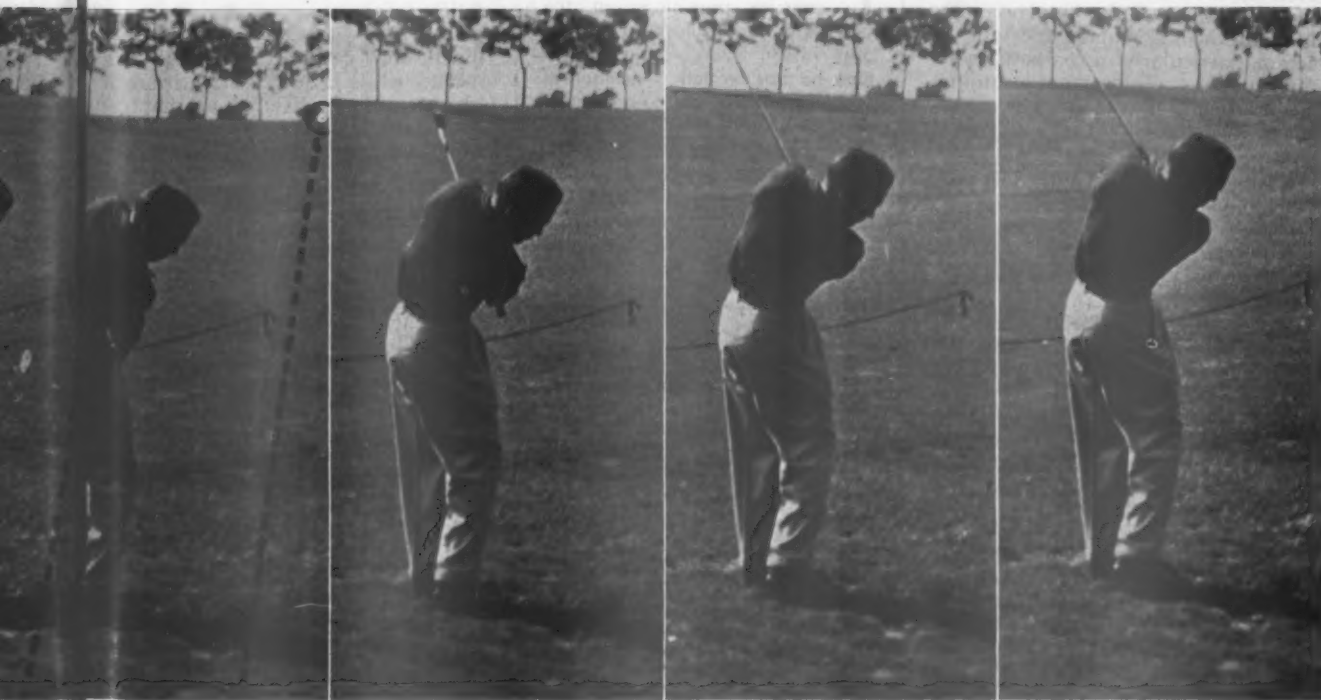
The club starts back squarely across the arc of the clubhead, with the clubface slightly hooded. The clubface is opened as his backswing proceeds.

In the third picture of this series, Frank begins to show signs of tightening and he becomes increasingly tight as he gets to the top of the backswing. That is the fault that offsets beautiful left arm action, perfect right arm and elbow positioning and fine hand action. There does seem to be slight evidence of the grip getting a bit tighter

than is normal for first class players, but that may be entirely natural to Stranahan, hence it is not a serious matter.

In our judgment, the cause of Stranahan's stiffness is primarily frozen footwork. Free footwork would enable him to transfer his weight better in his backswing while retaining correct balance and keeping his swing in its proper path. He blocks easy body action and keeps himself from turning enough to get power easier by having his footwork too tight. This fault in footwork keeps him pretty much in a crouch throughout his shot. Note that he seems more at ease when he comes into the hitting zone.

The finish is another indication that Frank is inclined to be too tense. We have often noticed that when he is playing well he is not as taut as he is in several stages of the pictured swing.



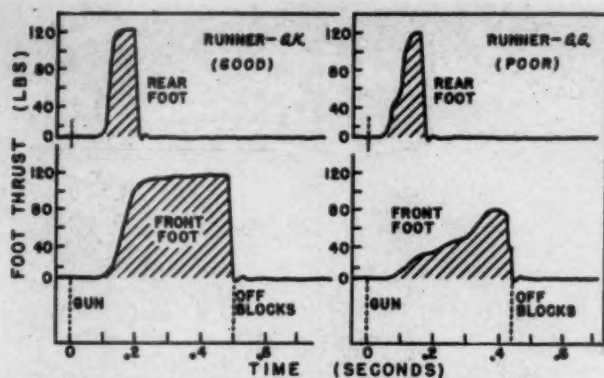
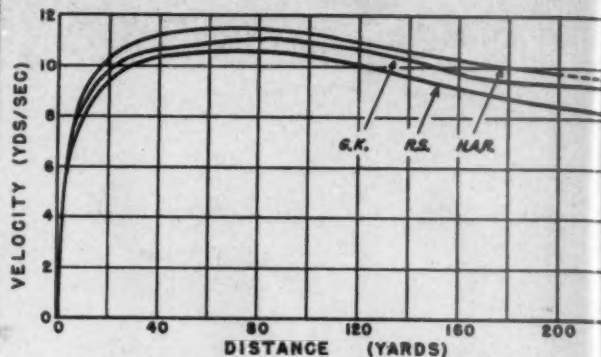


Diagram 1 shows examples of good and poor form in thrusting against the starting blocks.



In Diagram 2, examples of the drop-off in speed during the course of a 220 yard run are shown.

Research on Sprint Running

By FRANKLIN M. HENRY

Assoc. Professor of Physical Education, University of California, Berkeley, Calif.

THE application of science to sports activities is an intriguing subject; from time to time the topic has engaged the interest of some of the world's leading research figures. An outstanding example is the study of the Cornell track men by A. V. Hill, the British physiologist. Unfortunately such interest has, for one reason or another, been sporadic.

Perhaps one reason has been recognition of the complexity of even the simplest type of athletic performance. The human body in itself, viewed as a machine, is far more involved than even the most modern and awe-inspiring mechanism of the electronic age. In addition, the human machine in action, particularly in competitive action, requires consideration of unique factors such as racing strategy, methods of instruction, motivation and the like. Nevertheless, some of the basic principles of the functioning of the body as a machine may serve as a useful guide to the coach in developing athletes who can and will continue to create new records in human performance.

During the last few years, several experiments done in the research laboratory of the Department of Physical Education, University of California, have yielded information that will be of interest and perhaps of value to the coach who is interested in sprint running. Some of these facts oppose certain prevailing ideas concerning the sprint, partly because some of the older ideas are based on opinions rather than facts, or on observations that were not subjected to adequate scientific control, and partly because new apparatus has made it possible to analyze the factors involved more accurately and completely. Perhaps

one of the most useful of the new instruments is a device we have developed to make an automatic graph of the force-time characteristics of the pressure of the runner's push against the starting blocks. The same instrument also serves as a chronograph to record automatically the runner's reaction time as well as the exact instant he passes each of a series of timing stations spaced 5 yards apart.

With the aid of this instrument we have discovered, much to our surprise,

FRANKLIN HENRY has taught exercise physiology at the University of California for the past fifteen years, during which time he has written a number of scientific articles on co-ordination and physiology of physical performance and training. He received the honor award of the American Academy of Physical Education for, "Outstanding physiological research during the period of World War II."

that reaction time is of very little importance in sprinting. For example, in one series of 50 yard dashes in which each man ran twice, it would seem reasonable to anticipate that if reaction time is important, the run in which each man made his fastest reaction should show a strong tendency to be the faster of the two. The facts are otherwise—of the 25 sprinters tested, 12 showed coincidence between fast reactions and fast sprints, and 13 showed a lack of coincidence. Further analysis of the data supplied an explanation: the variance between two sprint reac-

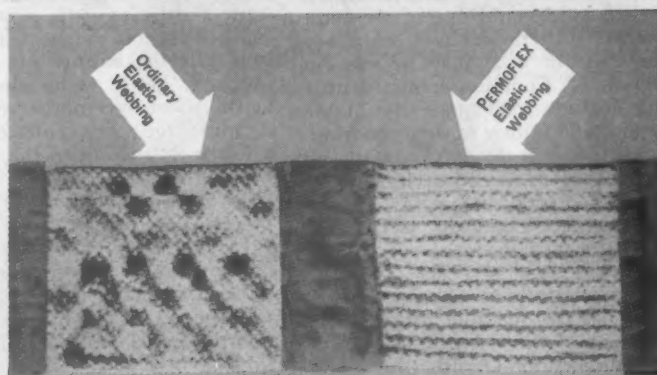
tion times is extremely small, being on the average only .0009 seconds; whereas, the variance between two 50 yard sprints is 15 times larger, namely, .0135 seconds. Other factors than reaction time must evidently be responsible for any important differences in a sprinter's speed in successive runs. It also turns out that there is no correlation among individuals, as between reacting ability and sprinting ability — a fast sprinter may be either a fast or slow reactor, or an average reactor. The results of several experiments on this problem are summarized in a recent technical article.¹ of course, if the runner is successful in jumping the gun a little bit, he may gain nearly a tenth of a second, while if he is inattentive or if his attention is diverted he may get left at the line, but neither of these situations may be determined by reaction time.

A typical sprinter requires a little more than a tenth of a second to react, but needs almost a full half-second to clear the starting blocks after the gun has been fired. It is interesting to see what happens during the four-tenths of a second on the blocks after the reaction time phase. Physically, the problem of the runner is to accelerate maximally his body mass by the application of force against the starting blocks; since action and reaction are equal, the force available for movement is the same as the thrust against the blocks, up to the time that his foot hits the ground to begin the first stride. Since his body is free to move forward in response to the thrust, his acceleration will be determined by

1. Henry, F. M. and Trafton, I. R., "The Velocity Curve of Sprint Running, With Some Observations on the Muscle Viscosity Factor," *Research Quarterly*, Dec. 1951



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what the physicist calls the *impulse*, defined as the *amount* of force multiplied by the duration of *time* the force acts. In order to achieve the most powerful start, the sprinter must not only thrust as hard as possible with both feet, but must *continue* to thrust until his forward movement causes him to lose contact with the blocks. His thrust on the rear block will last only about .16 seconds since he must bring that leg forward to be on the ground for the first stride: the front foot should start thrusting simultaneously with the back and continue at full force until forward movement pulls that foot off the block, a matter of .40 to .43 seconds. Actually, we have seldom observed the physically ideal start, although Grover Klemmer, a record holder and one of the most powerful starters we have measured came close to it as may be seen in Diagram 1. Common errors in technique include inadequate use of the rear foot and failure to start the front-foot thrust soon enough or with full strength. Often the front foot is disengaged too soon, before the full impulse has been delivered. An example of a faulty start is also shown in Diagram 1.

The longitudinal spacing of the blocks has considerable influence on the power of the start. Using toe-to-toe distances of 11, 16, 21 and 26 inches, we have found the average velocities at the moment of clearing the first block to be 2.20, 2.47, 2.50 and 2.54 yards per second. These facts show that within the range of medium to long spacings there is little difference, but the 11 inch or "bunch" start is about 12 per cent less powerful than the others. The results apply to both tall and short men, as might be expected, since the block spacings were varied over 40 per cent above and below the median; whereas, height (and leg length) ranged only about 8 per cent. However, we did not test any extremely tall or short individuals — our runners varied only from 66 to 75 inches in height, with a range of less than 3 inches in foreleg length.

Since the reason for emphasizing a good start is based on the assumption that a faster run will thereby result, it is of interest to evaluate from the finish tape rather than the start itself. This has been done — 18 sprinters ran 50 yard dashes with all four of the block spacings and on a subsequent day went through the experiment again, making a total of 144 runs. Rest periods and the order of runs were carefully rotated to balance out fatigue and learning. The outcome of the experiment is shown in Table 1.² It is clear that the 16 to 21 inch

Table 1.

Number of individuals making their best and poorest 50 yard run (of 8 trials per person) for each block spacing.

Block Spacing in Inches	Number of Best Runs	Number of Poorest Runs
11	0	12
16	7	1
21	7	0
26	4	5

toe-to-toe distance is the best. The 26 inch spacing, which gave the most powerful start and the highest velocity for the first five yards, fails to help most of the runners to reach the 50 yard tape in the shortest time. This elongated stance is seldom used by sprinters; it is possible that with adequate experience, some dash men may find it to be a little better than the medium stance. The 11 inch "bunch" start is definitely the poorest of the four. While it is true that this position gets the runner off the blocks quickest, he is going slower as he leaves them and never recovers this disadvantage. His center of gravity is a few inches closer to the finish line, but the advantage gained apparently fails to compensate for the lack of power at the take-off.

In an earlier experiment, a group of experienced dash men was compared with an inexperienced group.³ In the beginning, the inexperienced group was off the blocks in less time than experienced runners. As the inexperienced group gained in skill and speed in the dash, the time on the blocks increased. The best runners tended to be slow in getting off the blocks, but caught up with and passed the others at about 10 yards. At the time, these facts led to considerable puzzlement, but the later work has explained them quite satisfactorily. "The task of the runner," as Brutus Hamilton, head track coach at the University of California puts it, "is not to drive off the blocks as quickly as possible; rather, it is to drive off the blocks quickly with as good form as possible." It requires a little more time to make a powerful start, but the increased momentum that is thereby gained pays dividends later on in the run.

It was discovered by A. H. Hill during his study of the Cornell track men twenty-five years ago⁴, that the velocity during a dash run increased from zero at the start to a maximum speed at about 60 yards, according to an exponential mathematical law of standard form. In connection with

the experiments mentioned above, we have confirmed and verified this particular point, although we have been forced to take issue with him concerning certain theoretical matters.⁵ With the fairly precise establishment of the mathematical equation of motion it is possible to make some interesting calculations. For example, let us raise the question as to just where in the course of a 100 yard dash does the runner reach his peak velocity. This place turns out to be a function of his speed, but is reached in almost exactly 6 seconds regardless of the speed if he is running at full effort. The runner will be within 1 per cent of his greatest speed at 50 yards if he runs a 10.5 hundred, at 53.7 yards for 10 flat, 57.0 yards in the case of a 9.5, and 60.6 yards in a hypothetical 9 flat. (Naturally these figures will vary slightly depending on the characteristics of the individual.) As one watches a competitive hundred being run, it seems that the best men are continuing to accelerate well beyond this point, but this is a visual illusion due to the slower men having already passed their peak.

It is physiologically impossible for the runner, after he has reached his peak velocity, to maintain it for more than about 15 or 20 yards. Probably even the best dash man fades some 3 per cent in the last part of a hundred if he has really used full effort all the way, and will have faded about 15 per cent if he continues a full 220 yards at an all-out pace. Diagram 2 shows several velocity curves recorded for the 220, run at the fastest possible speed throughout. The data for H.A.R., a "first-rate 100 and 220 yard runner," were obtained by A. V. Hill; the other two runners were observed at Berkeley. Hill published the velocity data of 10 men; we have the curves for 54 at California. Every one of the 64 individuals shows the fading in speed. The record of G. K. is particularly significant because this individual, Klemmer, was a champion middle distance runner and surely had greater staying power than most 220 men.

Now it becomes necessary to bring in another factor, namely, the relative energy cost of different speeds of movement. Recently we had occasion to investigate the efficiency of riding a bicycle ergometer at two speeds.⁶ It was found that only 15 per cent of the normal amount of physical exertion could be accomplished from a standard amount of energy if the speed was increased by 68 per cent, the ratio

2. From Henry, F. M., "A Study of the Start in Sprint Running — A Preliminary Report," 1947 Conference, Calif. Assn. for Health, Phys. Educ. and Rec. (mimeo).

3. Lacy, D. E., "The Inter-Relations Between Reaction Time and Velocity in Different Parts of a Sprint Run," M. A. Thesis University of California, Berkeley, 1941.

4. Hill, A. V., *Muscular Movement in Man*. New York City, McGraw Hill, 1927.

5. Henry and Trafton, *ibid.*

6. Henry, F. M., "Individual Differences in Oxygen Metabolism of Work at Two Speeds of Movement," *Research Quarterly*, Oct. 1951.

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of efficiency loss to increase in speed being just about 4 to 1. There is nothing very new about this result; it was known twenty-five years ago that increasing speed was a very costly proposition. One research study, widely quoted in textbooks on exercise physiology, showed that the energy cost of running increases as the 3.8th mathematical power of the speed and that the energy resources of a runner determine how fast he can run a specified distance.⁷ It has also been established that the time required to swim some particular distance can be predicted from the energy resources estimated from oxygen consumption and oxygen debt.⁸

Using the Sargent data as a basis for the computations and assuming that the available energy resources of the runner represent a limiting factor in his performance, it is possible to estimate the advantage of an evenly paced run (Plan A) compared with the speed-float-gather-spurt technique that is often used (Plan B). Alternatively, the latter (conventional) plan could concentrate speed in the early and middle part of the run as is shown in Diagram 2 — it will make no difference in the calculations. For convenience, it will be assumed that the first 50 or 60 yards are run the same in both A and B, and that in Plan B half of the remaining distance will be done at a speed faster than the steady pace of A and half will be done at a lower speed.

First, let us consider a 20.3 second 220. In both plans, the runner should reach 60 yards in 6.55 seconds. The remaining 160 yards will be run in 13.75 seconds, at a cost of 67.1 kilocalories for Plan A compared with 70.2 kilocalories for B, figuring that the 80 yards run at full speed requires 6.24 seconds and the remaining 80 is done in 7.51 seconds. Another and more practical way of looking at the matter is to consider that for the same energy required for a 20.3 performance under Plan B, the runner could have done the distance in almost 20.0 flat under Plan A.

In the 440 and 880, the rate of energy expenditure is a little less influenced by varying the pacing. However, the early acceleration phase of the run (which should be the same for any good method) is a smaller part of the total distance, hence more of the run is influenced by the plan of pacing, thereby compensating for the other factor. Using the same propor-

tion of speed change for Plan B as was used in the example for the 220, it can be calculated that a 46 second quarter mile with the first 50 done in 6.5 seconds, the energy required for the "conventional" Plan B would have been sufficient to run a steady-paced Plan A quarter in 45.3 seconds. It should be noted that the amount of variation in pace in the above example is well within the limits of speed pattern recommended for the quarter and half in modern coaching textbooks.⁹

The energy used for running a 1:48 half under Plan B would be sufficient to do the distance in 1:44.4 using Plan A. For a 4.04 mile run by Plan B, it would have been possible to do a four minute mile using Plan A. A 9:04 two mile run under Plan B could have been done in 8:56 under Plan A. For all of these distances, ranging from the 220 to the 2 mile, Plan A makes it theoretically possible to do the run about 1½ per cent faster than can be done with Plan B, although the total number of seconds gained is, of course, greater for the longer distances.

Of course, successful running, as was pointed out earlier, involves a great deal more than just correct pacing. However, it can be said with confidence that insofar as the *physiological limit* is involved in setting records, a steady pace will result in faster time for the 220 and 440 as well as the half, the mile and 2 mile runs. It is not to be denied that records have been broken in the past, and will probably continue to be broken, by runners who do not follow Plan A. However, such happenings do not prove that some other plan is better — on the contrary, it can be argued that such performances were accomplished in the face of a handicap, and would have been even better if the ideal pacing had been utilized.

The problem of training an eighth or quarter miler to run with a uniformly steady pace is difficult, but it is certainly not insoluble. It would seem within the range of practicality to use some simple system, as for ex-

ample, pace control by lines marked across the track at 20 yard intervals. A loud gong is tripped at approximately every 2 seconds, with the idea that the runner should pass each mark at the sound of the gong. The exact rate for any desired speed can be determined from Table II. A group of runners would first learn to run the distance at a slow pace and gradually be brought up to maximum capability. Such a system might well be of value even for longer distances, since running the laps evenly does not necessarily mean that the distance within a lap has been evenly paced.¹⁰ Some sort of adjustable timer to ring the gong would be a convenience, the speed being altered by resetting a dial on the timer. If a coach is convinced that steady pacing is important, he and the young men working with him will devise some practical way to learn how to use it.

A few final remarks may be in order, elaborating on the earlier statement concerning the time required for the runner to accelerate his mass to full speed. It will be convenient to make use of the term "lag time," defined as the difference between the time actually required to run the first 60 yards and the hypothetical time that would have been required if the runner had reached his full speed instantly and run the first 60 at that speed. As A. V. Hill has explained¹¹, once the mathematical equation of motion of the runner is known, this lag time can be calculated very easily. We have found that it does not actually vary a great deal; two-thirds of the men we have tested have a lag (including reaction time) that lies between 1.25 and 1.46 seconds. Curiously enough, while this factor varies with the individual runner, it is quite independent of his velocity if he comes up to speed smoothly. Its neglect can lead to incorrect ideas concerning the velocity of different runs or laps. For example, the maximum speed of the sprinter who runs

(Continued on page 49)

9. Bresnahan, G. T. and Tuttle, W. W., *Track and Field Athletics*. St. Louis. C. V. Mosby Co., 1947. (Note fig. 14, p. 140, particularly).

10. The writer has prepared mimeographed tables for the steady-paced 220, 440 and 880 which he will be happy to mail to any interested coach on the basis of a stamped self-addressed envelope sent to him at Berkeley.

11. Hill, A. V., *opus, cit.*

Table 2.

Rate Per Minute for Sounding Gong to Secure Desired Speed at an Even Pace

Use a metronome set at twice the rate and strike a gong or steel triangle on alternate beats. Starting with the gun-shot at zero, sound the gong on beat number three for 20 yards, number five for 40 yards, etc. For more exact results, the first mark should be at 20½ to 21 yards for the eighth or a fast quarter and the metronome should be started after a few tenths delay as shown in the table. These corrections are necessary because acceleration in the first 20 yards uses up less time in a fast run.

Rate	35	33½	32	30½	29	27½	26	24½	23	21½	20	18½	17
Delay (sec.)	0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.2	0.1	0	0	0
220 time	20.2	21.1	22.0	23.1	24.2	25.4	26.8	28.4	30.2	32.2	35.0		
440 time				44.7	46.9	49.4	52.2	55.3	58.9	1:03	1:08	1:13	1:20
880 time							1:43	1:49	1:56	2:04	2:14	2:24	2:37

7. Sargent, R. M., "The Relation Between Oxygen Requirement and Speed in Running," *Proc. Roy. Soc. (B)* 100: 10, 1926.
8. Karpovich, P. V., and LaMaistre, H. L., "Prediction of Time in Swimming Breast Stroke Based on Oxygen Consumption," *Research Quarterly*, 11:40, 1940.

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Utilizing Your Facilities for Golf Instruction

By RICHARD T. MACKEY

Director of Rehabilitation
University of Kentucky

CONTRARY to what may be commonly believed, most colleges or universities can develop effective golf instruction programs without country club facilities. Actually, golf is being taught with good results in the corridors and locker rooms of many physical education plants and on outdoor play areas no larger than the standard softball or touch football field.

Just what are the minimum requirements, in terms of equipment and facilities, which are necessary to organize a sound golf instruction program? We will attempt to present a satisfactory answer to that question. The description of the instructional program will be presented with respect to two phases, indoor instruction and outdoor instruction. Each phase is designed to include nine weeks of instruction with three 40-minute periods per week or their equivalent.

Indoor Instruction

The space necessary for this portion of the instruction consists of an area 15 feet by 8 feet for each student in the class. The ceiling must be at least 8 feet high. Thus, if a space 15 feet wide and 160 feet long were available, a class consisting of 20 students could be easily accommodated. It should be obvious that in conducting a golf class in this relatively small area, safety rules must be strictly enforced. The greatest danger lies in the possibility of clubs slipping out of students' hands. The use of grip wax to prevent slipping and a towel to remove perspiration are musts. Clubs should be passed out to the group after each student is in position. Distribution to the members as they appear for class is dangerous because of promiscuous swinging. In addition, students must be taught to swing the clubs easily at all times and to observe the rules with respect to the proper place to stand and the proper direction in which to swing.

The equipment which is necessary for the indoor instruction consists of: one cocoa mat and an eight iron for

each student, four putters, four rubber putting discs, one dozen cotton golf balls, a rubber office mat or carpet, one dozen regulation golf balls, two towels each class day and two or three packets of grip wax. As a valuable teaching aid each student should be requested to purchase, for about ten cents, the booklet, *Golf Lessons*, published by the National Golf Foundation.

Introduction: An attempt should be made to lay the groundwork for an appreciation and understanding of the game. A brief historical background may be presented including

RICHARD MACKEY graduated from Ohio State in 1947, received his master's degree the following year and his doctor's degree in 1950 from Penn State. At both institutions he taught courses in golf and now is in charge of the golf instruction program at Kentucky. In addition, he is Director of Rehabilitation.

the evolution of the various pieces of equipment. A picture of a typical golf hole may be drawn and students given an introduction to golf terminology.

The Grip and Stance: The various grips should be demonstrated and their advantages and disadvantages discussed. With the instructor in the middle of the semi-circle, either the interlocking or the overlapping grip should be taught and methods of checking one's own grip may be presented. The square, open and closed stances should be demonstrated along with an explanation of their uses.

The Chip Shot, Causes of Bad Shots: The stroke should be described and the students told when it is used and with what club it is performed. The instructor should demonstrate the shot and then have the students go to their mats (placed 6 feet from the wall and 8 feet apart) and practice without balls. If the

group consists of ten students or less, the instructor may teach the various skills individually. If, however, the group is a large one (15 or more) the instructor should have everyone performing the various movements simultaneously. Thus, by standing at one end of the area, the instructor could sight down the line and rapidly make corrections for each one in the group before proceeding to another phase of the swing. This group instruction technique should be supplemented with as much individual instruction as time will permit. These same methods of instruction may be applied to practically any phase of the course.

Following the first period of instruction, cotton golf balls may be introduced. Practice and instruction should proceed until each student attains a fair degree of proficiency.

Time should be taken at this point for an explanation of the various causes of bad shots. This explanation should include a discussion of topping, shanking, toeing, slicing and hooking.

The Pitch Shot, Golf Rules and Terminology: The pitch shot should be demonstrated and then discussed with emphasis on its use and its relationship to the chip shot. Inasmuch as the general movements involved in performing the pitch shot closely resemble those of the chip shot, individual instruction can be used more extensively at this point. The grip should be re-checked, refinements made and the mannerisms which make one look the part of a golfer should be introduced.

Cotton golf balls should be put into use during the second class meeting and the points which were stressed with regard to the chip shot should be re-emphasized. A helpful point in getting beginners to avoid breaking the wrists after hitting the ball, is to insist that they maintain a straight line from the point of the left shoulder clear through the club head, in the finish.

In conjunction with this phase of the instruction, additional information should be introduced with re-

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spect to the manner in which the game is played. A description of the playing of an imaginary hole or holes could be the medium for presenting official rules, rules of etiquette and golf terminology. A point that should be strongly emphasized is that if a person knows how to conduct himself properly on the golf course, even though he is not highly skilled, he will be socially acceptable to anyone he might chance to play with.

The Full Iron Swing, Tournament Play: Safety rules should be re-emphasized as this phase of the instruction is introduced. The instructor should rub wax on all of the grips before each class and provide two towels for each class meeting.

An explanation of the full iron swing and the part it plays in a golfer's stroke repertoire should be the initial phase of instruction. Such an explanation is important because it is difficult for beginners to visualize how and when each stroke is used in actually playing the game. It is helpful to the students if the full swing is demonstrated in slow motion, several times. By observing a sound golf swing they will soon begin emulating it. Following the demonstration of the swing, the students should take their stance at the cocoa mats and as a group swing the clubs to the top of the backswing and hold that position. The instructor may then pass down the line and correct gross errors. This process is repeated until each student is demonstrating good, but perhaps not perfect form. The downswing and finish are then practiced, the instructor employing the same teaching technique. After several sessions the group should be ready for practice with the cotton balls.

In further efforts to enhance the students' knowledge and appreciation of the game, the basis for competition in golf should be explained. Along with a discussion of match and medal play, it would be well to mention examples of outstanding tournaments of each type. Some of the feats, in tournament play, of golfing greats would provide interesting material to interject at this point.

Purpose of Woods and Irons, Selection and Purchase of Golf Equipment: The instructor should bring to class a full set of clubs and explain the purpose of each club. This presentation should include a discussion of the relationship between the design of each club and its use. Variations which exist in regard to sets made by different manufacturers might also be mentioned. This is an opportune time for the instructor to broach the subject of the selection and purchase of golf equipment. The discussion

might well include: selection of the minimum number of clubs necessary for play, selection of a golf bag and golf balls and minimum cost of beginners' golf equipment.

Putting, Resume' of Official Rules and Rules of Etiquette: The putting stroke should be taught with emphasis on having the club face in proper alignment throughout the swing. Mention may be made of the various types of greens that will be encountered and how a person may learn to judge the "roll" of the green.

Following the demonstration of the putting stroke to the whole class, individual instruction might be given to four members of the group, while the others practice previously-learned skills. A rubber office mat or carpet 15 feet long and 3 feet wide could serve as a putting surface. The students should first practice the stroke on the mat without a ball. A chalk line on the mat is helpful in enabling them to keep the club head on line. When all of the students have developed a fairly smooth stroke they should practice with regulation golf balls and rubber putting discs. The putting distance should be kept at a maximum of six feet. Members of the class should be rotated so that in two or three class meetings all of them may gain instruction and practice in putting.

As the course of instruction nears completion, it would be well to review the rules and terms of the game. The National Golf Foundation's booklet, *Golf Lessons*, provides an excellent source for discussion of those points. Students should be requested to read the booklet and bring to class questions concerning anything not fully understood.

Visit to Golf Course: As a final phase of the indoor instruction arrangements should be made to visit a golf course. This visit will provide an opportunity to clarify many terms and rules. For some of the students it will be the first time they have actually walked over a green or a fairway. It would greatly enhance the value of this visit if the students could observe two or three good golfers play a few holes. Thus, the instructor attempts to leave the students with a desire to put into use, at the first opportunity, their newly acquired skills and knowledge.

Outdoor Instruction

The only supplementary equipment necessary to proceed from indoor to outdoor instruction is approximately five dozen practice golf balls. In terms of facilities, a standard football field will provide adequate space for

the outdoor program. Obviously, it will be impossible for a coach to give instruction in every phase of the game if he is teaching within a space 360 feet by 160 feet and has only putters and eight irons at his disposal. It will, however, be possible to give the students sufficient experience to enable them to go to a golf course and play without fear of embarrassment because of lack of skill or knowledge of the game.

The general instructional plan should follow, rather closely, that of the indoor phase. Thus, the outdoor program should present an opportunity for the students to practice with regulation golf balls and receive additional instruction in those skills learned indoors.

Again, the formulation and observance of definite safety rules should be among the first considerations. The principal danger, of course, lies in the possibility of someone being struck by a golf ball. Extreme care should be taken, therefore, to prevent bystanders from walking into the hitting area. To protect the students in the class from hitting one another, the group should do all swinging while arranged in a straight line across the field. A strict rule should be, "Never advance after the balls until everyone has hit and the instructor has given the signal to move."

A suggested teaching plan which is applicable to the chip shot and the pitch shot, as well as the full swing, is as follows:

1. Review the fundamentals of the stroke and then demonstrate it.
 2. Have the members of the class arrange themselves 10 feet apart on one goal line so that they will be swinging towards the other goal line.
 3. While the students are doing practice swings, check each individual's swing for deviations from good form.
 4. Distribute four or five balls to each student.
 5. Have all students hit the balls while the instructor gives individual instruction to one or more, depending on the size of the class.
 6. When everyone has hit all of the five balls, and not before, give the signal to move down the field and collect the balls.
 7. Have the students line up on the goal line and then repeat the process described above until all members of the group have had instruction.
 8. Additional individual instruction should be given to those who especially need it.
 9. Proceed to the next stroke when a fair degree of proficiency has been reached by all members of the class.
- Teaching putting will require the

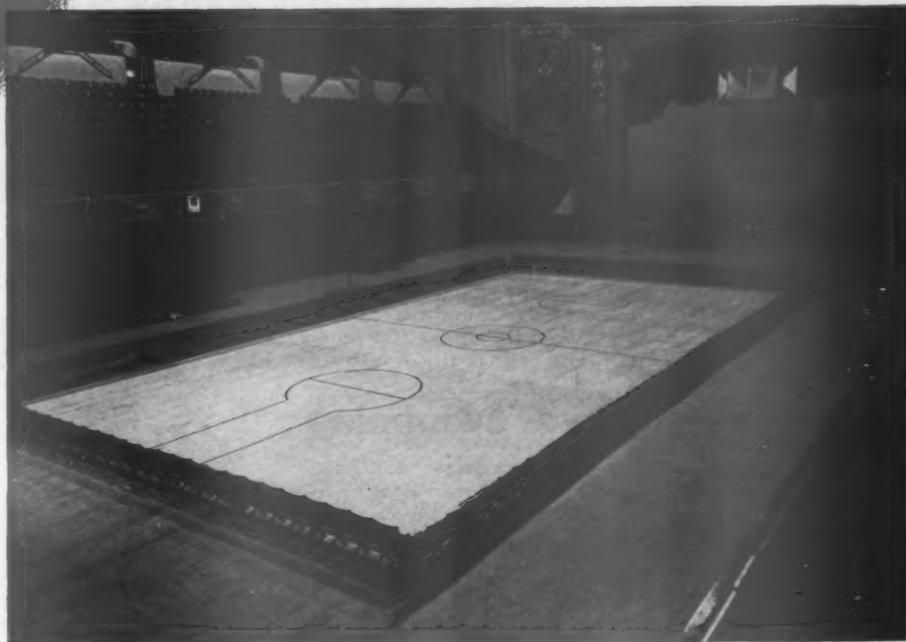
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INSTITUTION

ADDRESS

CITY

STATE

construction of a sand or dirt green. Such a green could easily be developed and would involve a minimum of expense. The putting phase of the instruction should be presented in conjunction with other skills. While four students receive instruction in putting, the others should continue practice on either the chip or the pitch shot. Supervision should be maintained over both groups to avoid any laxness in the observance of safety.

In order to enable the students to gain experience similar to that encountered on a regulation golf course, three sand greens might be built. The holes could be so located in various corners of the field, (outside the boundary lines) that two of them would be approximately 110 yards in length and the other one 60 yards. Broom handles could serve as flag sticks and pieces of scrap wood could be utilized as tee markers. Through the medium of this three-hole golf course, the students would have the opportunity to put into operation all of the skills which had been taught them. In

addition, the practical application of rules and terms could be an important part of this experience. Under proper supervision the three-hole course could provide a very realistic situation.

It would be a fine thing if, as a final phase of the outdoor instruction, the students could be given the opportunity to actually play on a regular golf course. It is obvious that the prime factor is the location of a course close enough to the school to make trips feasible. Another factor involves securing clubs, although that could probably be worked out through a rental system at the local golf course. Going to a course would necessitate doubling up on class periods so that at least two consecutive hours would be available. If that were not possible, the class might meet early on Saturday mornings. Even though only two or three visits could be made to a course it would be well worth the time and effort in terms of stimulating the students to pursue the game after the course of instruction had ended.

Competitive Swimming

(Continued from page 15)

upon relaxation, starts, turns and concentration upon form.

Those coaches who advocate a post-season program are, for the most part, the coaches who favor their swimmers swimming the year around in order to stay in top condition. Fifty-seven per cent stated that they make provision in their post-season program for a tapering-off period. During this period the swimmers gradually decrease the amount of work they do each day. The team members participate in exhibition swimming, A.A.U. meets, local championships, as well as the other activities listed above.

Occasionally a coach is faced with the problem of a swimmer who needs to be "pepped" up or a swimmer who needs to be "toned" down before a meet. The coaches indicated that they use different techniques or methods for getting their swimmers ready for competition. Most coaches do not use a pep talk in order to pitch their swimmers for the approaching meet. Some coaches use the man-to-man approach in trying to pitch and inspire the individuals to do better or to reduce tension. In cases where swimmers had turned in better times during practice than in competition, the techniques, for the most part, were somewhat the same. Many coaches indicated that they make an honest attempt to ascertain the causes involved; many coaches stated that they increase the amount of competition

or the number of time trials in an effort to provide more competition and get the swimmer more used to timing. A few coaches stated that such a problem had never arisen, or that if one like it did arise, that swimmer would not represent the school in competition.

The use of motion pictures and film strips is an effective way to present to team members pictures of outstanding swimmers of the present time, and also present an interesting analysis of the various strokes. Those coaches who do not utilize the above-mentioned aids stated that lack of funds would not permit their use.

There has been much discussion with regard to the desirable water temperature for practice and competition. The coaches indicated that they prefer a temperature of 78° F for practice and 76° F for competition. The temperatures for practice ranged from 67° F to 86° F, while the temperatures for competition ranged from 65° F to 85° F. According to their supplementary remarks, some coaches feel that a water temperature below 70° F is too cold and tends to tighten swimmers up. Other coaches indicated that a water temperature that is too high tends to make their swimmers lazy and sluggish.

Another factor in competition that has caused much discussion is that of whether a swimmer should take a warm or cold shower before a meet

and between events of a meet. That they have no preference for either warm or cold showers was indicated by 40 per cent of those replying, while 33 per cent indicated that they prefer their swimmers to take a warm shower before a meet; 58 per cent of the coaches desire their swimmers to take neither warm nor cold showers between events, while 28 per cent desire their swimmers to take a warm shower between events.

The amount of time that should be allowed when traveling to a competitor's pool for a meet, as indicated by the returned questionnaires, is from 0 to 3 hours. The next greatest number of coaches recommended 4 to 7 hours time. The range was from 1 to 36 hours. This is due to the fact that many of the teams must travel great distances and thus there is a great need for more time to stretch, rest and become familiar with the pool. It is generally believed that when teams travel to championship meets 0 to 11 hours should be allowed between the time of arrival and the time of the meet. The hours ranged from 1 to 96. Here again, the coaches like to allow sufficient time for their swimmers to rest and become familiar with the pool.

The number of hours sleep per night, as recommended by the coaches, is between 7 and 9 hours. The greatest majority recommended 8 to 9 hours sleep per night. This is a difficult factor to control because many swimmers carry difficult courses which involve much time and effort, or they live in fraternity houses or off-campus. Some coaches stated that it was not necessary for swimmers to get more sleep the night before a contest for they believe that a normal, regular schedule is the most important factor.

The data of this study warrants the following conclusions:

1. Common sense in training and conditioning methods for competitive swimming have replaced those governed by superstition and ignorance.
2. The swimmer of today must swim the year around in order to compete with the topnotch swimmers in the colleges and universities in the United States.
3. Various food fads are outmoded, since a well-balanced diet of good, plain, wholesome foods, eaten regularly and in moderation, is considered best for the swimmer.
4. Coaches of today are genuinely interested in methods of training and conditioning swimmers for competitive swimming, as evidenced by the 66.2 per cent return the writer received on the questionnaire sent out.
5. Further study should be made of training and conditioning methods.

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University of California	United States Army team	Washington State College
University of Oregon	Stanford University	California Aggies
University of Nevada	University of Idaho	Los Angeles Professionals
Shriner's East-West	College of the Pacific	Graceland College
Sacramento College	Denver University	University of West Virginia
Brigham Young University	Oklahoma A. & M.	University of North Dakota
City College of New York	Schools in Canada	Over 50 Parochial Schools
Augustana College	Dickinson College	Colgate University
	Over 1200 High Schools in the United States	

**6TH ANNIVERSARY OF
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Conduct of a Wrestling Championship

By LOU THOM HOWARD

Assistant Football Coach, Amityville, L. I., New York, High School

A major problem of wrestling tournaments on the national level is the lack of smoothness of operation and color enough to make them attractive to spectators. Successful national wrestling championships do not just happen, they are the results of months of careful planning and toil on the part of many key people. Two very fine examples of well-planned tournaments were the 1948 and the 1950 National A.A.U. Championships at Hofstra College, Long Island, New York. These tournaments were carried out under the leadership of tournament director, Jack McDonald.

Time and time again it has been proven that it is the minute and apparently unimportant details that make the difference between good

and bad tournaments. Cots for the wrestlers to rest on between matches; public address systems in the locker room; signs pointing out various spots to spectators and competitors; scales placed in or near the hot room so that the wrestler trying to get down to weight need not dress and run back to the weighing-in area; all these so-called minor points remain in the minds of the spectators and participants long after the results of the meet have been forgotten.

Unquestionably, then, one of the greatest shortcomings of amateur wrestling in our country is the absence of glamour and dress for the public. As vehement as we may be in our attacks on professional wrestling matches, we must admit that the pro-

motors and other persons responsible for these exhibitions go to great lengths to gain public approval. True, we would not wish to be identified with these people, but amateur wrestling must take a page from the book of the professionals when it comes to publicity and public relations. We must, as a group, leave no stone unturned in our efforts to put on a good performance for the public.

In this article we will endeavor to outline the steps necessary to conduct a successful championship. No architect ever set forth to construct a building without a blueprint; nor does a captain sail his ship through unfamiliar water without a chart. And yet many times we, as physical

(Reading continues on page 44)

A WORKING CHECK LIST FOR THE CONDUCT OF A NATIONAL WRESTLING TOURNAMENT

PRE-MEET

APPLY FOR AND PROCURE RIGHT TO RUN TOURNAMENT.

ENTRY BLANKS

DISTRIBUTION

Compile adequate list of organizations and individuals to whom blanks should be sent (clubs, competitors, officials, schools, colleges, A.A.U. and Y.M.C.A. committee chairmen and members).

Mail with supplementary information (i.e., railroad schedule, housing, etc.).

Follow-up mailing.

Set up method of checking responses of entries.

Send out information and contestants sheet to those who have entered.

CONTENTS

Title of tourney.

Weight classes to be contested (listed).

General information (include entertainment, dates of beginning times of competition, reserve right to add or change sessions, reserve right to reject entries).

(1) Eligibility (stated); (2) closing date of entries; (3) prizes (stated); (4) team and individual trophy and by whom donated; (5) entries (where sent and fee); (6) accommodations; (7) address to whom all inquiries should be mailed.

TICKETS

If the state law requires use of a licensed ticket printer, be careful to have means to recover unused tickets in time for reports to state tax officials to escape tax.

Have tickets for:

Officials.

Press.

Reserved seats if any.

Put on tickets:

Hour.

Date and hour of competition.

Other necessary details.

Price.

PUBLICITY

Souvenir Journal.

Contact press (set up detailed list of sports writers, columnists in area).

Contact radio and television networks.

Signs, window cards, car cards and posters made and distributed.

Contact name individuals to present or contribute awards.

Obtain pictures of competitors for display.

Suggestion: have two thousand sheets of institution stationery printed with the date and title of the championship on it.

Send out "Who's Who Sheet."

COMMITTEES

Set up committees.

Schedule dates of committee meetings from beginning down through final reports after tournaments. A) All together.

B) Separately.

Advertising committee to get ads.

Advisory committee.

Championship committee and general chairman.

Committee on officials.

Concession committee.

Courtesy committee.

Eligibility committee.

Entertainment committee.

Finance committee.

Housing committee.

Outstanding wrestler committee.

Publicity committee.

Radio and television committee.

Ticket sales committee.

Tournament committee.

Transportation committee.

OFFICIALS

Contact officials.

Send proper letter of invitation to clerks, referees, timers and judges.

Place return addressed postcard in envelope.

Send free tickets to all officials who accept bids.

Have score sheets, weighing-in sheets, doctors sheets, brackets and pairing sheets made.

Clear with all groups using gymnasium area for the scheduled tournament (specifically Y.M.C.A.'s).

Plan dinner for officials.

Set up general schedule of events to be sent to all officials.

Clinics for officials.

Have ribbons for officials.

AWARDS

Procure awards and have them properly engraved.

First, second, third and fourth place medals.

Team trophy.

Outstanding wrestler.

Fastest fall (or most falls).

Set up plans for colorful presentation ceremony of awards.

Have pedestal for final awards made.

Contact band for final presentation.

PERSONNEL

Select ticket collector (obtain petty cash and cash box).

Procure doctors for medical examination and to be present throughout meet.

Arrange for cameramen.

Recruit and instruct runners (sufficient to transmit sheets between clerks table, announcer's stand, judges' table, and to round up competitors).

Arrange with fire department and police department to have uniformed representatives on hand.

Procure and brief announcer on duties and plans of procedure.

Contact typists.

MISCELLANEOUS

Have tournament forms to post drawings.

Have first aid kit replenished.

Make thorough survey of restaurant facilities in the area.

Coaches' and officials' meeting for rules interpretation, etc.

Clinic for competitors.

Obtain A.A.U. sanction.

Obtain federal tax form.

Arrange contest such as Queen of Championships, etc.

Secure sufficient timing devices.

Checkroom for storage of valuables.

SIGNS INDICATING DIRECTIONS

To preliminary registration.

To weighing-in and checkroom.

To medical examination.

To mens room.

To ladies room.

To locker room.

To shower room.

To restaurant.

WEEK OF MEET

Set up public address system.

Arrange to play recording of National Anthem.

Set up loud speakers in locker rooms.

Have scales checked (have at least two sets of scales).

Provide hot room facilities and have a set of scales in the immediate area.
 Make a final survey of dressing facilities.
 Provide a special room for officials, referees and timers for changing clothes.
 Check seating arrangement.
 Check supply of soap and towels.
 Have sufficient pencils, paper, scoring charts and brackets on hand.
 Have some type of mending material on hand to mend mats and covers if they are torn during the meet.
 Have all necessary mats and mat covers placed in the area early in the week.
 Have all mats and covers inspected for rips and tears.
 Obtain buckets for expectorating and tissues.
 Purchase oranges and receptacles for disposal of peels.
 Gum for contestants.
 Have sufficient cots for participants.
 Arrange for complete parking facilities.

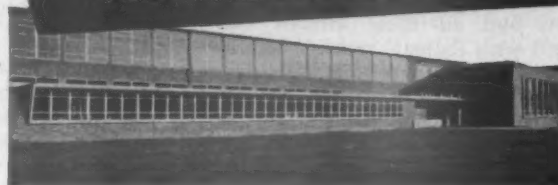
FINAL CHECK ON ALL PERSONNEL

Announcer.
 Clerks.
 Coat check attendant.
 Doctor.
 Guides.
 Judges.
 Matron.
 Messengers.
 Person to sign competitors tickets.
 Program Sellers.
 Referees.
 Scorers.
 Timers.
 Have sufficient rule books on hand.
 Red and green anklets.
 Have sufficient first aid equipment on hand.
 Type list of competitors for weigh-in (according to weight classes).
 Have passes for competitors printed; to be signed by the physical director. (This permits them to receive towels and locker assignments.)
 Set up special scoring system for spectators.
 Type alphabetical list of competitors for medical examination.
 Stop watches.
 Horns.
 Bells.
 Whistles.
 Buzzer.
 If three mats are to be used, it is suggested that different sounding devices be used on each mat.
 Having sufficient chairs and tables for officials.
 Area for working press.
 Sufficient venetian blind cord to tie all mats together securely.
 Mimeograph list of entries.
 Assign one official to see that the referees, judges and timers are rotated so that no official is overworked.
 Set up registration table to clear A.A.U. membership and travel permit.
 Supervise setting up of tables for clerks so that they will be out of line of traffic.
 Have all pairings mimeographed.
 Number mats, scoring setup for each mat.
 Obtain numbers one to thirty-two made of durable material; two boxes in which to place these for drawing.
 Area for concessionaires.
 Special room for pairing and seeding.
 Select area to post running standings of competitors.
 Instruct varsity club as to assignments (sell programs, runners, guides, work gates, etc.).
 Release to press.
 Post dates, time and place of scheduled championship.
 Have house crew do a thorough job of cleaning in all of the area to be used.
 Arrange with the crew to be ready to clean the area and replace all equipment immediately following the meet so as not to curtail program (Y.M.C.A.).
 Select a spot to exhibit medals and trophies.
 Final plans for presentation.
 Obtain formalin solution (37.5%). Mats should be scrubbed with this one hour before meet.
 Secure pictures of the individual champions.
 Secure pictures of the winning team.
 Secure picture of the outstanding wrestler.

POST-MEET

Prepare financial statement of championship.
 Send in all entry fees (if applicable).
 Complete state tax form return.
 Complete federal tax return.
LETTERS OF THANKS
 Committeemen.
 Officials.
 Press.
 Person donating and presenting awards.
 Name figures in attendance.
 All persons donating time or money.
 All others.
 Return all borrowed equipment.
 Have area ready for other activities that are to follow.
 Provide for storing all equipment and materials.
 File away all records and charts dealing with actual competition.
 Send photographs of champions to the proper office (N.C.A.A., A.A.U.).
SEND COMPLETE REPORTS TO PROPER OFFICE
 National Collegiate Athletic Association.
 National Y.M.C.A. Physical Education Commission.
 Amateur Athletic Union — ten copies of the official results of the meet.
 List of entries in meet.
 List of schools and officials.
 Chairman of rules committee written report for annual yearbook association.
 Financial report to treasurer within sixty days.

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educators, tournament directors and coaches think nothing of entering into a tournament of national consequence with only the most superficial of plans.

To organize the tournament successfully one must bear in mind two important considerations. In the first place, it must be an enjoyable experience for participants, coaches, officials and all those directly concerned with its management. Secondly, it should do a selling job to the public. Amateur wrestling in this country needs dressing up. It may be unfortunate, but we cannot lose sight of the fact that the participation interest of the boys and young men of this country turns to those sports which excite spectator interest. Anything that we can do to sell the sport to the public will do much to attract new blood and build up new participation interest in our boys and young men. Dignified showmanship will add much to the enjoyment of participants, coaches and officials and will, in addition, build up the spectator interest in amateur wrestling.¹

The first step in one's publicity is

1. McDonald, John B., "Conduct of Major Wrestling Tournament," *Official A.A.U. Wrestling Guide*, (1948), pp. 37-41.

getting up an attractive souvenir program or journal program. It would behoove the sponsor to get the literature or the journal out very early to Y. M. C. A.'s, colleges and all local clubs. The tournament director should send data to member clubs.

LOU HOWARD attended the University of Nebraska and Springfield College, graduating from the latter in 1948. Since that time he has done considerable work in administering wrestling meets, having served as tournament director of the Senior and Junior Metropolitan A.A.U. Meets and the National Y.M.C.A. Championships, and is currently on the staff at Amityville, New York, High School.

An advertising note sheet should be enclosed stating the cost of advertising, (full page, one-half page, one-quarter page, etc.). A well-planned journal will do much to keep the tournament in the minds of the contestants, coaches, officials and specta-

tors for many years.

The tournament director should start early in his cultivation of the press. A detailed list of sports writers should be set up and each should be contacted individually to be sure he is fully aware of the coming tournament. These men should be sounded out as to their reactions regarding wrestling. Many times a special sports writers' dinner may be planned long enough before the competition to get good results in many of the local papers. The returns in terms of free sports page publicity are usually very gratifying.

Every piece of literature that leaves the office addressed to the general public should first go to the sports writer with a release date. While the meet is in the formative stages, the press should receive the names of the championship committee. With this material set before the public constantly, the job of ticket selling will be easier as tournament time draws near.

Radio and television are areas that will become more and more important; this is especially true in a large metropolitan area. Many television channels will air the meet, while other groups will film it for rebroad-

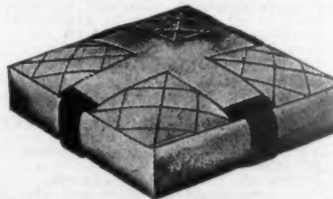
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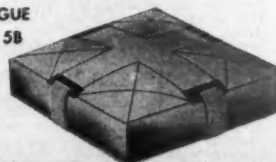


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casts on many of the sports reel shows. There is no reason why in a national competition newsreel cameraman should not be invited. A meet of national scope deserves national coverage.

A very good piece of publicity used by the West Side Y.M.C.A. in the 1941 National A.A.U. Championships was the printing of the date of their championship in bold red type across the bottom of all stationery. Another similar thought is the use of stickers with the pertinent data stating name, date and whereabouts of championships. These suggestions are particularly good for colleges and Y.M.C.A.'s which carry on much and varied correspondence.

Circularize the area — signs and posters should be placed throughout the area. The official report of the eighth National Y.M.C.A. Wrestling Championships held at Akron, Ohio in April of 1939 states that 200 window cards and 400 posters were placed strategically about the city. Signs may also be placed in streetcars, buses and trains. It is well to remember that the majority of the paid attendance will be from the area surrounding the tournament site. This is the place to concentrate advertising; if necessary

buy radio time and newspaper space. Actually, in a large community, this should not be necessary if the ground-work with press and radio has been properly laid. Tickets should be made available at all luncheon clubs in the city. In Y.M.C.A.'s and colleges, entire editions of the paper many times may be turned over to the tournament director for his use.

In this day and age of picture magazines, such outlets as *Look*, *Life*, *Pic* and the others should be notified. Many times a two-fold purpose is served in procuring trophies for outstanding wrestlers, quickest falls, etc. If the tournament director can persuade a name individual to donate a trophy, the fact that the leading citizen or governor supplies a trophy carries the implication to the public that he is interested.

Y.M.C.A.'s make very extensive use of their lobbies prior to national championships, portraying pictures and signs. This might well be true of colleges and sponsoring agencies for the National A.A.U. Championships. Photographs may be secured easily from the participants if they are told that these are to be used in the journal or for display purposes.

The tournament director should set up his publicity committee as one of his first duties. The person heading this committee should be selected with great care and should have considerable background in public relations.

If we are to conduct successful wrestling championships on the three national levels, Amateur Athletic Union, National Collegiate Athletic Association and Young Men's Christian Association, much planning is necessary in addition to the few factors we have mentioned in the preceding paragraphs.

We offer this check list as a blueprint or chart. If the tournament director checks off the items as they are accomplished he will find many points that ordinarily might have been overlooked, are considered at the proper and logical time. Many items that have aided us in conducting successful large scale tournaments have been placed on the list.

It will not always be possible to follow all the points outlined in this list, but the tournament director will have a guide to help him take steps in the proper direction and thus assure a very successful tournament.

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NEW BOOKS

Boxing Simplified, by John Walsh. Published by Prentice Hall, New York 11, N. Y. One hundred and ten pages. \$3.95.

Replete with 102 illustrations, this book is, in our opinion, the boxing bible. Certainly the author needs no introduction to the readers of this publication or to the profession in general. Among the items discussed are: equipment, necessary precautions, conditioning, care and use of the hands, practice routines, scouting future opponents and the "Wisconsin Report" which does so much to refute the arguments of those who attack amateur boxing.

The Hockey Handbook, by Lloyd Percival. Published by A. S. Barnes & Co., New York 16, N. Y. Three hundred and twenty pages. \$3.75.

Lloyd Percival heads the famed Canadian Sports College which has distributed over three million pieces of training literature. Six years of research went into the preparation of this book. The author studied hundreds of professional and amateur games, interviewed thousands of players and coaches in every country where hockey is played, and came up with what we predict will be the best seller in its field.

Techniques and Tactics of Basketball Defense, by Blair Gullion. Published by the author, Washington University, St. Louis, Mo. Two hundred pages. \$3.00.

Contrary to most books on basketball, this one deals exclusively with one subject, defense, and what a job it does. Among the many defensive items discussed are: screen plays, the pivot player, jump ball situations, rebounding, out-of-bounds, fast break and forcing or pressing defenses. Coaches who are interested in the subject of defense will class this book as a must.

Physical Education — A Textbook of Principles for Professional Students, by Del Oberteuffer. Published by Harper & Bros., New York 16, N. Y. Three hundred and seventy-four pages. \$3.50.

As the name implies, this is a textbook, but those who want to keep abreast of the latest thinking in the field of physical education will certainly want this book, written by one of the recognized leaders in the field.

Leadership in Recreation, by Gerald B. Fitzgerald. Published by A. S. Barnes & Co., New York 16, N. Y. Three hundred and four pages. \$3.50.

The author, who is the Director of Recreation Training at the University of Minnesota, directs his approach to people rather than to activities. The major part of the book deals with such administrative problems as: organization of committees, club organizations, planning and conducting conferences, etc.

How to Improve Your Volleyball and How to Improve Your Archery. Published by The Athletic Institute. Each book 50 cents.

Two more of the excellent books on sports made from the Athletic Institute's slide films. The archery film was made under the technical supervision of Eloise Jaeger and the volleyball film under the direction of Robert E. Laveaga.

Are Golfers Human?, by Robinson Murray. Published by Prentice Hall, New York 11, N. Y. One hundred and thirty-three pages. \$2.50.

Every once in a while we come across a book that is removed from the field of literature which we review in these pages. We found this one to be so highly entertaining that we are passing it along to you. Most coaches play golf and if there was ever a humorous dissertation on the game this is it. We had many a chuckle at both the cartoons and reading matter.

The Greatest Sport Stories From The New York Times, edited by Allison Danzig and Peter Brandwein. Published by A. S. Barnes & Co., New York 16, N. Y. Six hundred and eighty pages. \$4.95.

Compiled in this book are the newspaper accounts of the sport classics of the century. This book would go great in every high school library. Why not recommend it to your librarian -- your athletes will enjoy it tremendously.

Recently Published Books

Curling, by Ken Watson. Published by A. S. Barnes & Co., New York 16, N. Y. One hundred and seventy-seven pages. \$3.00.

The Yale Football Story, by Tim Cohane. Published by G. P. Putnam's Sons, New York. Three hundred and sixty-nine pages. \$6.00.

Baseball's Greatest Pitchers by Tom Meany. Published by A. S. Barnes & Co., New York 16, N. Y. Three hundred and twenty-six pages. \$3.00.

Horsemastership, by Sarah Mason. Published by A. S. Barnes & Co., New York 16, N. Y. Four hundred and forty pages. \$5.00.

Fabulous Redmen — The Carlisle Indians, by John S. Steckbeck. Distributed by A. S. Barnes & Co., New York 16, N. Y. One hundred and fifty pages. \$3.50.

Would You Call This Murder?, by Colonel Harvey L. Miller. Published by the author, Fernway and Lee Gate Roads, N. W., Washington 25, D. C. Fifty-seven pages. \$1.00.

So much has been said in print against the so-called evils of amateur boxing that when we came across a book refuting these arguments with sound reasoning and statistics we hastened to point it out to our readers. The author is professor of journalism as well as boxing coach at the University of Maryland. Everyone interested in both sides of the boxing question should be sure and secure a copy of this book.

Body Dynamics, by Eleanor Metheny. Published by McGraw Hill, New York 18, N. Y. Two hundred and twenty-five pages. \$3.50.

Basically for women, nevertheless, the book presents some very scientifically sound information about the functioning of the human body and how it may be improved. Written in such simple, non-technical language, it will be found useful for men's physical education as well.

Tennis Match Score Sheets. Published by the Tennis Division of MacGregor Golf Co., Cincinnati 32, Ohio.

Contains fifty scoring sheets and is free to all coaches. On each sheet there is adequate space to record all of the necessary information about a team match. In this day of statistic-minded coaches, here is the tennis scorebook that fills the bill for that sport. Such other handy items as weather conditions, type of courts, condition of courts, and attendance are available. Above all, the book is free.

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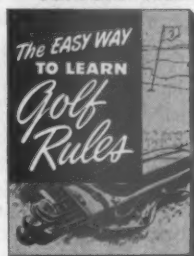
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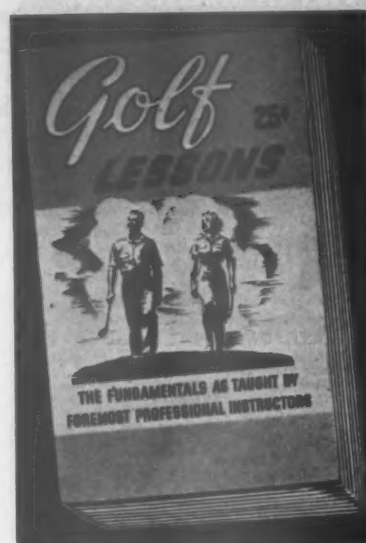


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Psychology of Coaching, by John D. Lawther. Published by Prentice Hall, New York 11, N. Y.

Compiled for class use, this new text provides a basic knowledge of the thousand-and-one duties of a coach. It fills, we believe, a long-felt need for a text on what to teach the prospective coach. Throughout the book we find that the emphasis is placed on "how-to-do-it."

Relay Racing

(Continued from page 9)

Big Ten-Pacific Coast Meet set up a regulation whereby a scratch line was placed about 18 inches in front of both starting lines on the shuttle hurdle relay. Members of the relay team were permitted to anticipate leaving the blocks and were not called for leaving too soon if their back foot had not reached the scratch line on the ground. This, of course, actually allows the outgoing man to be in motion, but it was felt that the inspector could be more accurate in his judging.

It should be remembered that in practicing the touch-off of the shuttle hurdle relay, when using the method of touching the outgoing man's shoulder, caution should be exerted on an energetic runner who may use a so-called "stiff arm" on the touch. This, of course, may throw the outgoing man completely off balance and ruin a team's chances in the race. The use of an easy downward patting motion is probably a safe method to practice to insure against upsetting the outgoing man.

Baseball

(Continued from page 26)

running plans, in order to affect a double steal, is for the catcher to look the runner on third base back to that base and throw through to second base. Looking a runner on third base back to the bag is a simple stunt that may prove effective when it is done properly. Actually, the catcher looks at the runner on third base as soon as the pitch is caught, and while he is riding the pitch upward into throwing position. When the runner on third base sees the catcher looking at him and getting ready to throw, he thinks that he is the target for the put out, and scampers back toward third base. The catcher, however, throws through to second base immediately after "the

look." The actual process for the catcher is: catch the pitch; look at the third base-runner while riding the pitch upward for the throw; look back toward second base with the stride; throw and follow-through (see Series A).

The Full Bluff Toward Second Base and the Throw to Third Base

In this technique the catcher ignores the runner on third base as the runner on first base breaks for second. All of the catcher's natural throwing actions are the same as those used in throwing through to second base, with the exception of the release of the ball. The forward arm swing must be full and complete. A half bluff is usually useless. As the catcher straightens up after his follow-through on the bluff he looks toward third base, and gets ready to make his throw to that base to put out that base-runner (Series B).

The Quick Return Throw to the Pitcher

This play has not been used very successfully. In using it the catcher should never look the runner back to third base. He should go through all of the natural motions of throwing to second base, and instead throw the ball head high to the pitcher. A good decoy by the pitcher is necessary — that is, he should try to hide his intention of catching the ball until the last possible split-second. The infielder covering second base must break for that base on the pitch; otherwise, a smart base-runner on third base need only see second base uncovered to know that no play is being made there.

The Short Throw to Second Base

On this play the second baseman comes in halfway behind the pitcher and second base and receives the catcher's throw at this spot. He is set immediately to return the throw to the catcher, or he tries to pick the runner off third base. This play is designed to catch the runner off third base. There is no thought of getting the runner going to second base.

The Direct Throw to the Second Baseman or Shortstop

This play is similar to the short throw just mentioned, except that the ball is thrown short directly to the shortstop or second baseman, who comes running straight in from his

position toward the catcher as the runner on first base breaks for second on the steal. This play has been most successful when the ball is thrown directly to the second baseman.

Sprint Running

(Continued from page 34)

a 9.3 hundred will reach 12.6 yards per second, but his average velocity will be only 10.75. At exactly the same velocity, the 220 would be run in 20.46 seconds, but the runner would only accelerate to 11.57 yards per second; to run it in 20.3 seconds, he would step up his maximum slightly, to 11.65 yards per second (considerably slower than championship speed for the hundred). If he could maintain for the remaining 120 yards of the 220, the velocity he reaches in a 9.3 hundred, he would be able to run the furlong in the amazing time of 18.8 seconds.

To plan the lap time or fractional time for a run (provided of course that the fraction is greater than 60 yards), one would deduct the "time lag" factor, (1.4 or perhaps 1.3 seconds), from the desired total time, divide this theoretical net time into the required fractions, and add the time lag to the first fraction only. For example, to plan a 46 quarter, we would have 44.6 net time, 22.3+1.4 or 23.7 for the first furlong, and 22.3 for the second. For a 1:50 half, we would have 108.6 seconds net time, 27.15+1.4 or 28.55 at the first furlong, 28.55+27.15 or 55.7 at the second, and 55.7+27.15 or 82.85 at the third. For a four-minute mile we would figure about 1:01 for the first lap, 2:00.7 at the second and 3:00.4 at the third. However, to make full use of his potentialities, it is not enough for the runner to pass these markers on schedule — it should be reemphasized that the pace must be even and uniform in between the markers if the physiological advantage of the even-paced run is to be secured. Moreover, one should visualize the problem in terms of the disadvantage of an unevenly paced run compared with the ideal pattern; this disadvantage may be more or less than the 1½ per cent figure, depending on how much the speed of the runner varies from the ideal velocity and what proportion of the run is involved. There is one exception to this dictum — for the 220, the loss probably will never be greater than 1½ per cent because of limitations in the possible maximum speed. This restriction does not apply to longer distances.



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Movable Backstops

(Continued from page 22)

strip of canvas should be hung down the middle section to protect the wire. This is especially true if a team is batting without the services of a catcher.

The pictures show the methods of construction. Nailing on the backstops is such that the joints will remain in place even when under considerable stress. A bag of sand placed on the outer end of the ground piece will keep it from toppling over during a heavy wind.

An Improvised Batting Cage

By using one of the backstop frames we constructed a batting cage back of home plate. The frame was wired to a high fence at about a seven' foot level and then held up on the outer end by two quarter-inch ropes attached to the outer ends of the frame. These ropes were run up over the big fence and tied securely to the pipe crosspieces of the main backstop. This has made a very useful backstop batting cage which can be pulled up out of the way during a game. The cost was very small when compared with the usual cost of a batting cage. By making the proper iron hooks, the frame could be attached to any spot on the fence and supported by ropes. This would make it movable if a coach wanted to have that type of cage.

Offense or Defense

(Continued from page 12)

outstanding authorities on fast break basketball to those who are rated as the top exponents of conservative, controlled offensive attacks.

Clair Bee has stated, "Some coaches believe the philosophy of basketball protects the defense and requires the team in possession of the ball to attack. This is not true. Once the offensive team has crossed the ten-second line there is no ruling or legitimate philosophy which demands a scoring attempt. The burden is on the defensive team. They are behind in the score; victory can be achieved only by outscoring the opponents and the opposition has the ball. There is only one thing to do about it — go get the ball. Dr. Naismith in commenting upon the above situation, stated emphatically; 'The fundamental philosophy of basketball demands

that the defensive team try to secure the ball."

The ability of an offensive team to retain possession of the ball is in direct proportion to its mastery of such basic basketball skills as passing, dribbling, pivoting, etc., each of which is as basic to an over-all team performance as the actual scoring of field goals. Scoring opportunities are the direct result of the above-mentioned skills.

To demand that the offensive team carry the attack to the defense is an admission by the defense that it considers itself unequal to the task of regaining possession of the ball. If this is the case, the solution lies not in forcing the offensive team to attack, but rather in concentration on the defensive phases of individual and team play to the point where possession of the ball may be acquired through the use of aggressive defensive tactics, while the offense uses every skill at its command to prevent this from occurring.

"Possession is nine points of the law." From the earliest days, ours has been a competitive society and not one in which things are given to us without fighting for them. This is our idea of Dr. Naismith's philosophy when he invented our great American game of basketball. Let us never tarnish it, either through rules changes or coaching philosophies, by requiring the offensive team to give up the advantage that makes it the offensive team — possession of the ball. There is only one ball in the game. If the defensive team does not want to remain on defense it has only one choice — regain possession of the ball.

When any type of defense, not only zone but also man-for-man and any combination of the two, fails to incorporate this principle in its style of play its action becomes a detriment to the game of basketball.

*Clair Bee, Zone Defense and Attack, p. 15.

Middle Distances

(Continued from page 20)

ber of unpredictable factors associated with running contests. Since a race covers a very brief time span, and since the coach is unable to direct strategy during the running of an event, the need for basic instruction in this phase of racing becomes evident. The athlete must have the "know how" which will enable him to make repeated, rapid and discriminative decisions throughout the course of a race, and such knowledge comes about only through sound coaching or long practical experience.

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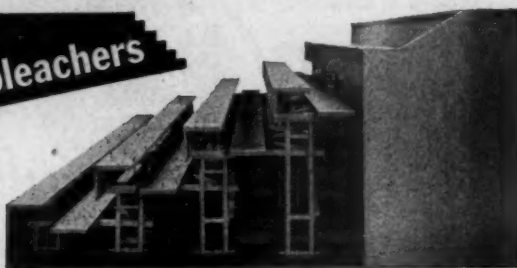
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Triples Balancing

(Continued from page 11)

tom man should place the first two fingers of his hands over the toes of the top man. The middle man is starting to bring his head out by turning it to one side and the top man's body is in a vertical position.

In Illustration A6, the top and middle men are in position, while the bottom man is bringing his head out. Illustration A7 shows the completed stunt. The arms of the bottom and middle men are fully extended and the hands of the top man are on his hips. In this picture, the middle man should have presented a more nearly horizontal thigh.

Illustrations B, C, D and E show stunts that may be done from this fundamental position, but which are a little more difficult.

JAMES BAILEY graduated from Illinois, where he was a member of their famed Gymkana Troupe. Following graduation, he started and coached the Duke University gymnastic teams and the Gymkana unit. The pictures in this article are of members of the Duke Gymkana Troupe. He left Duke in 1949 to complete work for his doctor's degree at Ohio State, and since that time has been on the staff at Ohio Wesleyan.

The "two and a half high" starts from the triple thigh stand. First, the middle man ducks his head under the legs of the top mounter to return the top mounter to a sitting position on his shoulders. Then the top and middle men grasp hands, the top man shifts his weight to his hands and draws one thigh almost to his chest to place one foot on the middle man's shoulder. This position is shown in Illustration B. When this is accomplished, the top man pushes himself upward with his arms and one leg, and places his other foot on the middle man's shoulder. During this process, the middle man's arms should be bent with his elbows forward and held rigid. Next, the top mounter should come to the erect position, being careful to keep his back perpendicular as he does so. Only his toes should be on the middle man's shoulders. His heels should be in the air and his shins should be against the middle man's head. He

should not attempt to stand on his toes. Meanwhile, the middle man should push backward with his head and pull forward with his hands, which should have been placed as quickly as possible on the top back part of the top mounter's calves. The top mounter's hands should be placed on his hips and this action completes the stunt. Illustrations C and D show the more daring version, where the middle man does not hold the top mounter's calves.

The method of dismounting for all stunts described so far is just the reverse of the method of going into the stunt.

The next stunt, the "two and a half high handstand" also starts from the triple thigh stand. First, the top mounter bends down carefully to place his hands on the knees of the middle man. This is shown in Illustrations E1 and E2. This accomplished, the middle man releases the top man's knees one at a time and grasps his upper arms. The top mounter then tucks tightly and presses into the handstand position. He may dismount by arching over to his feet, while the middle man retains his grasp on his arms, or he can drop his body down forward to either side of his partners.

Illustration F shows the "triple thigh stand back bend." This stunt also begins from the orthodox triple thigh stand. The top mounter should first shift both feet to one thigh so that he will face inward, bending over slightly as he does this, and placing his hands on the middle man's shoulders. He then shifts the opposite foot to the opposite thigh. Meanwhile, the middle man shifts his grip. The backward arch of the top mounter completes the stunt.

Illustration F





McArthur
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NEW ITEMS IN EQUIPMENT AND IDEAS

For further information
see Service Coupon



MacGREGOR GOLDSMITH has come up with a leather that is as soft and pliable as a dress glove, yet contains all the ruggedness needed for a baseball glove. Their new model, "Big Leaguer," has, in addition to this marvelous leather, the following features: the patented "natural contour" ball pocket and "no rip" thumb, a narrow-hinged "flex-pad" heel and an extra large one-piece tunnel web, laced to a wide crotch. MacGregor Goldsmith, 4861 Spring Grove, Cincinnati 32.

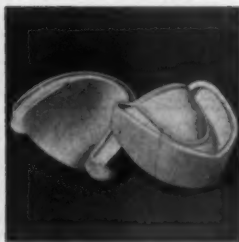
THE hit of the Football Coaches Convention was the new Sand Ribett-knit football pants made of reinforced DuPont Nylon. The secret of these pants is the fact that no rubber yarns are used, yet they hug the body like skin. Other features include hanging thigh guard pockets, reversible knee pad pockets and a zipper front. Exhaustive tests have proven the extreme long wearability of these pants. Sand Knitting Mills Co., 538 S. Wabash Ave., Chicago 5, Ill.



HERE is one of the neatest pieces of athletic clothing to come on the market in some time. This new Protective Tee Shirt No. 141 is made of nylon with a thin coating of Neoprene and is designed to be worn over the regulation tee shirt but under the pads. It serves a dual purpose of keeping players warm in extremely cold weather and dry in wet weather. It is fully cut and has a drawstring at the neck and elastic at the end of short sleeves. Hodgman Rubber Co., Framingham, Mass.



AT the Sporting Goods Show, Yearite featured this new, two-ply baby shaker with the popular "slash" type inset pockets. This new beauty is available with either raglan shoulders, or set-in shoulders. The sleeves match the trim of the sweater; the cuffs match the body of the sweater; and it is available in all school, club and team color combinations. Yearite Sportswear—Bunnyknit Sportswear, 112-114 Bleeker St., New York 12, N. Y.



FIFTY-TWO per cent of all football injuries occur around the mouth so Voit proceeded to do something about it and came up with this mouth protector. It is made of soft beige colored rubber, winter-green flavored, and comes in three sizes. Actual experimentation by its inventor, Dr. Jack Cathcart, California dentist, shows that 80 per cent of all athletes would use the same size mouth protector. The other sizes are for extremely small or large mouths. Voit Rubber Corp., 1600 E. 25th St., Los Angeles 11, Calif.

HERE is one of the neatest automatic pitching machines we have seen in some time. Called the "Rapid Robot," it does away with bothersome vibration which is disturbing to batters and gives a clean flight to the ball with a true spin. By means of a simple turn of a screw, the alignment of the ball over the plate is controlled. It is just as easy to control the speed from slow balls to fast balls. Pitches ten balls a minute. Dudley Sports Company, 633 Second Ave., New York 16.



High School Basketball

(Continued from page 13)

the team. As a rule, the boys play a better brand of ball when they go into a game as the underdog. This year the sports writers conceded us third place. Everyone was surprised at the outcome. Our boys learn early in the season, that the teams which are getting all the build-up are composed of boys that are not superhuman.

The team we played in the finals had defeated us twice during the regular season of play. This did not kill our spirit to win, nor did it cause the boys to lose confidence in their ability. The players built our confidence in them and we, in return, built their confidence in themselves. Man for man, inch for inch, they had more natural ability than many teams that were larger in stature. The night of the final game our boys reached their peak, because they finally accepted the fact from us that they were good and could play a championship brand of basketball.

A coach should know his boys as he knows himself; be fair to them; be honest with them; never criticize them after a game has been lost; never accuse an individual player of losing the game; make them love each other; pray before each game; think and believe, "One for All, and All for One."

From Here and There

(Continued from page 4)

away from home. It wasn't until the first Saturday in November that the people of Abilene were able to catch a glimpse of Woody Woodson's team. . . . How much has basketball scoring increased in the past ten years? Well, this may give you some idea. The offensive average for the leaders of the Big Six Conference during the years 1938 to 1941 was 44 points. The defensive average for the same years was 33.3 points. For the four years 1948-1951, the offensive average of the Big Seven Conference was 60.9 points, an increase of 16.9 points. The defensive average for the same year had gone up 14.3 points to a 47.6 average. . . . Phog Allen, whose current team is ranked the best in the nation; has a record which we doubt any coach can equal. In thirty-four seasons as basketball coach, the composite ranking of Kansas' finishing position in the conference is 1.9. Only thirteen times has Kansas failed to win or tie for the championship.

Restricted Television Plan

November 17 was to be telecast, requests for refunds mounted, and even entire train parties were cancelled." "The Miami-Cincinnati game was played this year on the same day that the Michigan-Ohio State game was telecast in Cincinnati and the surrounding territory. This game decided the football championship of the Mid-American Conference. Weather conditions were very good; the rivalry was over fifty years old; both schools had fine records. Usually the Cincinnati-Miami game is a sellout of 30,000. This year attendance was 16,000." "District 2, the Middle Atlantic States, the area of highest set saturation in the United States, provided an equally significant example of the adverse effect of television upon attendance. While attendance in District 2 was definitely off during the 1951 season, the two major institutions in this area not on the interconnected network, namely Cornell and Penn State, did exceedingly well in their home stadiums. The significant fact is that only when they visited TV areas did their attendance fall off. Thus, for example, Cornell's home attendance increased nearly 25 per cent in 1951, while its away games were off almost 10 per cent." "Even in the case of the famed Army-Navy game, prospective spectators came tramping into the ticket offices, only to say that they would watch the game on television if the end zone was all that was available."

In 1949 we became alarmed at what we feared would happen to attendance and urged that a ban on live television be adopted. Certainly nothing has transpired to cause us to change our opinion. We wonder, however, if another coaching magazine which is published in New York and distributed free has changed its opinion since it made the asinine statement, "The only sports events that TV may kill are the mediocre attractions. As far as we're concerned that's justifiable homicide."

Care of Athletic Clothing

THE recent trend in athletics is to dress up teams in showy, crowd-appealing uniforms. However, it must be realized that some of these fabrics require the utmost care in cleaning and should not be sent to the "run of the mill" commercial cleaning establishments. In the first place, the commercial cleaner does not receive enough athletic clothing to be familiar with all the fabrics and dyes being used. Secondly, commercial cleaners use extremely hot water and strong chemicals which tend to break down fabrics and cause dye goods to bleach or run. The best bet is to send athletic clothing to a responsible athletic reconitioner

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FEBRUARY, 1952

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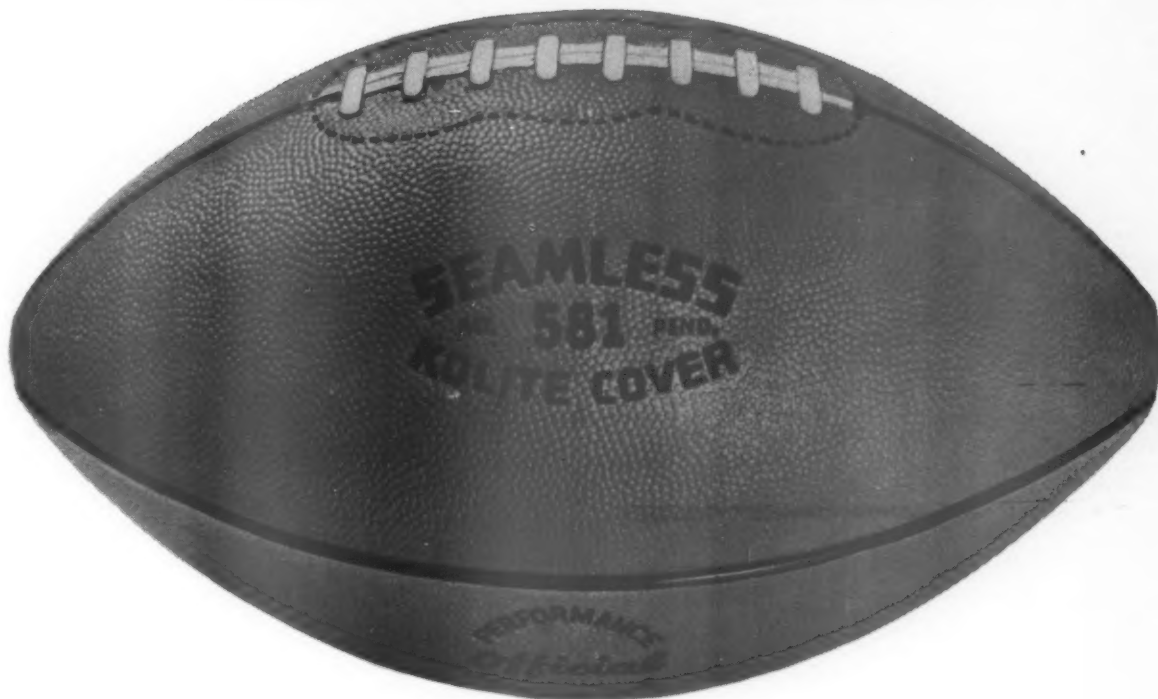
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N.C.A.A.

Official National Collegiate Athletic
Association Football Guide, 1952

Rule 1—Section 3—Article 1

Specifications:

* * *

".....a ball made of other material may be used
by mutual agreement of the contesting teams."

N.F.S.H.S.A.A.



Official Football Rules, 1952,
National Federation Football
Committee

Rule 1—Section 3—Article 1

".....NOTE: By agreement of both teams or
by conference adoption, properly constructed
rubber-covered footballs which have been tested
and sanctioned as having the proper reaction
may be used."

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